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Kathleen Neel – Summit County Recorder

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VER PLOEG ESTATES
PLANNED UNIT DEVELOPMENT DESIGNATION

This Planned Unit Development Designation, to be known as Ver Ploeg Estates Planned Unit Development Designation (“Designation”), is approved this 28th day of April, 2015 by the Board of County Commissioners of Summit County, Colorado, hereinafter referred to as the “County” for certain real property located in Summit County and described in attached Exhibit A, hereinafter referred to as the “Property.” This Designation establishes the land uses which shall be permitted on the Property, a general Development Plan (“Plan”) and development guidelines and conditions which must be adhered to by Brenton N. Ver Ploeg, Kathryn A. Verwillow, and the Ver Ploeg & Hassing Living Trust dated December 14, 2004, and their successors, heirs, or assigns, collectively referred to hereinafter as the “Owner.” This Designation also specifies improvements which must be made and conditions which must be fulfilled in conjunction with this Designation by the Owner.

Where this Designation does not address a specific development standard or requirement of the Summit County Land Use and Development Code (“Development Code”) currently in effect, the Development Code shall apply. Where the Designation addresses a specific development standard or requirement, the provisions of this Designation shall supersede the provisions of the Development Code. Use and development of the Property shall be in accordance with the specific requirements of this Designation, in substantial compliance with the Plan attached hereto as Exhibit B, and the objectives of minimizing site disturbance and blending development into the natural environment.

A. Development Plan, Permitted Uses and Existing Structures

1. Purpose and Intent

This Designation is proposed in an effort to create a subdivision that protects the historical agricultural uses and open space nature of the Property, and furthers the following goals and policies as reflected in community documents such as the Countywide Comprehensive Plan, the Upper Blue Master Plan and the Joint Upper Blue Master Plan:

- a. Maintain the historical agricultural uses and open nature of the Property, as evidenced through the preservation of a large portion of the Property as private open space limited to non-intensive and non-residential historic agricultural uses. The nature and limits of such historical agricultural uses shall be established by means of the Open Space Covenant and Agreement (“Open Space Covenant”) proposed for the Property, which reflects the same type of protections promoted in the County’s Rural Land Use Subdivision regulations, with a focus on “encouraging efficient use of land through clustering of development and preservation of ranchland, environmentally sensitive areas, and key open space areas.” The Open Space Covenant proposed herein for such purposes is in fact more restrictive than that required in Section 8426 of the Development Code for Rural Land Use Subdivisions;
- b. Protect the rural nature of the Property, and ensure that the Property serves as a viable transition from urban to rural areas in accordance with the land use designations of the Upper Blue Master Plan;

- c. Cluster the residential development of the Property, by means of utilizing the flexibility afforded by the Planned Unit Development (PUD) process, to ensure the preservation of open space, mitigation and limitation of impacts to the Property and surrounding areas, and restrict the scope and impact of infrastructure;
- d. Protect the natural environment and limit the carbon footprint and impacts associated with the residential uses of the Property by pursuing viable alternative energy solutions in a manner that is complimentary to the natural environment in lieu of establishing the conventional electrical distribution line infrastructure and constructing such facilities;
- e. Avoid the recognized negative consequences and economic impacts of expanding conventional infrastructures for utilities in a geographically, topographically, and economically unfeasible manner, where there is sufficient evidence to support alternative energy systems and/or an alternative means of providing utility needs including, but not limited to, the use of renewable energy systems, propane, wireless telephone service, wireless internet service, and satellite television;
- f. Limit the impacts of driveway construction by ensuring a means of access that curtails the scope and effect of large driveways or roads, maximizes the protection of the adjacent natural environs, and is specifically tailored to only serve the residential development served by such access.

2. Development Plan

- a. Development of the Property shall be in accordance with the attached Plan and the following specific requirements of this Designation:

<u>Lot</u>	<u>Lot Size</u>	<u>Disturbance Envelope Size</u>	<u>Use</u>
Lot 1	5.86 acres (approx.)	18,446 s.f. (approx.)	Residential
Lot 2	5.87 acres (approx.)	20,199 s.f. (approx.)	Residential
Tract A	46.52 acres (approx.)		Private Open Space

- b. One single family dwelling unit is permitted on Lot 1, and one single family dwelling unit is permitted on Lot 2. Additional uses permitted on the residential lots are set forth in Section A.3.b below.
- c. Tract A (Private Open Space) is private open space and shall remain free from residential development, and free from any intensive uses, in perpetuity. Tract A (Private Open Space) shall be protected and preserved as private open space, subject to the limited use allowances as set forth in this Designation and in the separate Open Space Covenant describing said Tract A (Private Open Space) and the permitted uses, which shall be executed and duly recorded in conjunction with the general Subdivision Exemption Plat to be adopted concurrently with or subsequent to the recordation of this Designation. Said Open Space Covenant shall allow for limited, non-intensive agricultural uses such as those contemplated for Rural Land Use Subdivisions as reflected in Section 8426.04 of the Development Code.

Additional uses not specifically set forth in this Designation or in the Open Space Covenant may be subsequently permitted by means of an express amendment to said Open Space Covenant, mutually agreed upon and executed by the parties thereto, and

no Designation modification is required to allow for any such modification in allowed uses via such covenant amendment process.

- d. No improvements or disturbance shall be permitted in the 25 foot wetlands setback, nor shall any improvements or disturbance be located on slopes in excess of 30 percent on the lots or within Tract A (Private Open Space). However, forest management activities, landscaping and revegetation may be allowed in these areas upon County review and approval in accordance with the Development Code, including without limit, Chapter 7 of the Development Code. Notwithstanding the foregoing, it is expressly noted that livestock fencing may be allowed in these areas, including limited locations in any wetlands setbacks, upon prior County approval, which approval will not be unreasonably withheld.

3. Permitted Uses

- a. The Open Space Covenant shall be recorded concurrently with the associated General Subdivision Exemption Plat for the Property creating said property interests, in the records of the Summit County Clerk and Recorder. A plat note shall be included on the subdivision plat referencing the open space provisions and the Open Space Covenant.
- b. Additional uses on Lots 1 and 2 are those allowed as permitted, accessory, or temporary uses for the A-1 (Agricultural) Zoning District, including specifically the following:
 - i. Keeping of livestock per Section 3802.02.B and Figure 3-8 of the Development Code, with the application of said provisions based upon the entire acreage of the PUD area in total rather than upon the size of an individual lot, envelope or tract.
 - ii. Keeping of domestic animals such as dogs and cats per Section 3802.02.A and Figure 3-8 of the Development Code, with the application of said provisions based upon the entire acreage of the Property in total rather than upon the size of an individual lot, envelope or tract.
 - iii. Either an accessory apartment or a caretaker unit, but not both, may be permitted on each lot in accordance with the Development Code. Caretaker units may be incorporated into a primary residential dwelling, a garage serving the primary dwelling, or be constructed as a free-standing dwelling unit. Maximum size of an accessory apartment or a caretaker unit shall be 1,000 square feet exclusive of any garage.
 - iv. Small scale renewable energy systems in accordance with the provisions set forth herein.
- c. Conditional uses, designated under the Development Code as conditional for the A-1 (Agricultural) Zoning District, except those uses set forth above or expressly addressed in this Designation, shall not be approved unless and until a separate conditional use permit is approved by the County.

- d. All uses shall be reviewed by the County in accordance with the applicable requirements of the Development Code, this Designation and the attached Plan.
- e. A determination on the allowance of any use shall take into consideration the propriety of such use in light of the size of the lots. Notwithstanding the foregoing, such a determination should also reasonably contemplate the size of the entire Property, if such consideration is germane to the analysis of use proposed, and the use is otherwise allowed in the PUD Property and not necessarily restricted to the specific lot in terms of the scope of the use area.

4. Existing Structures

- a. There are four non-residential existing wooden structures on the Property, which carry value as historic structures, and as support structures to the agricultural uses allowed on the Property. There is also an existing residential cabin ("Cabin") located on Lot 2 which has been used as such by the Owner for over 50 years. The four non-residential structures are located entirely within the building and disturbance envelopes, and the Cabin straddles the disturbance envelope of Lot 2 as shown on Exhibit B.

<u>Structure</u>	<u>Size</u>	<u>Location</u>
1. stable (historic remains)	181 square feet	Lot 1
2. cabin (historic remains)	231 square feet	Lot 1
3. shed	56 square feet	Lot 2
4. outhouse	20 square feet	Lot 2
5. Cabin	553 square feet	Lot 2 straddles envelope

- b. The Cabin on Lot 2 straddles the disturbance envelope on said lot and is considered a legal non-conforming structure in terms of location and zoning designation. Therefore, this structure may remain in its current location or may remain in place and be repaired and improved, so long as these improvements do not significantly enlarge the structure (greater than 30% of the total square footage) or create or foster any illegal use or structure by means of such efforts. The structure may also be moved so that it lies within the designated building envelope.
- c. The Cabin on Lot 2 is also located within 25 feet of the wetlands on the Property. The Cabin may remain in this location, but modifications which would increase disturbance in the wetlands setback are not permitted.
- d. All five structures may remain in their current locations, be relocated to other areas of the Property, but only within a designated building envelope, or they may be demolished at any time.
- e. All five structures may be repaired, and may be improved to facilitate their non-residential use, as accessory sheds or agricultural support buildings. No utilities may be connected to the structures, and the gravity flow water pipe that connects to the Cabin on Lot 2 shall be disconnected prior to the County granting a certificate of occupancy for the future residence on Lot 2. However, if such disconnection would result in the actual or implicit abandonment of the water rights associated with such water supply, the Cabin shall be subjected to a covenant ensuring that the structure is

not used for residential use, expressly in lieu of any requirement to disconnect that pipe.

- f. The structures as they exist at the time this Designation is approved are considered legal non-conforming structures as set forth in Chapter 14 of the Development Code, and the structures as they currently exist shall also be exempt from any Building Code requirements. Nevertheless, any improvements, expansions or renovations to the same shall be subject to applicable Building and Development Code requirements.
- g. Notwithstanding anything to the contrary regarding the restrictions on residential use of the existing Cabin on Lot 2 contained elsewhere in this Designation, said Cabin is a residential structure and has been used as such for over 50 years by the Owner. Accordingly, subsequent to approval and recordation of this Designation, the Cabin may continue to be used as a residential structure, and maintained and repaired, but not improved or expanded as such. Said allowance shall be preserved until such time as a new residence is constructed on Lot 2. Therefore, upon issuance of a certificate of occupancy for the new Lot 2 residence, the existing Cabin shall not be utilized for residential purposes and shall be subject to the provisions set forth above in Section A.4 of this Designation.

B. Development Standards

1. Envelopes and Disturbance Limitations

- a. The Plan attached as Exhibit B establishes a building envelope and disturbance envelope for each of the residential lots on the Property. All building envelopes have been sited a minimum of 20 feet away from all property lines, and the disturbance envelopes have been located a minimum of 25 feet from all natural wetlands and water bodies.
- b. All new residential construction or existing structures relocated upon the Property shall be located entirely within the building envelopes on each lot. This includes, but is not limited to, roof overhangs, decks, at grade patios, garages and storage sheds.
- c. Site disturbance outside of the building and disturbance envelopes on Lots 1 and 2 is limited to: (a) grading and surfacing of the driveways; (b) installation of a private pedestrian and vehicular bridge to access Lot 1; (c) driveway security gates; (d) installation and maintenance of utilities, including above ground renewable energy systems, above and below ground propane tanks, and above and below ground backup generator systems, all in accordance with the limitations set forth in Section C.5 of this Designation; (e) installation of wells; (f) installation of On-site Wastewater Treatment Systems (OWTSS); (g) above and below ground fire suppression reservoirs ("cisterns") as shown on Exhibit B; (h) installation of landscaping and revegetation, including but not limited to, landscaping material associated with County required wetlands mitigation; (i) installation of fencing; (j) County required defensible space or wildfire hazard mitigation; (k) tree removal for forest management efforts conducted in accordance with an approved Forest Management Plan, discussed in detail in Section C.7 herein, and incorporated by referenced as if articulated in full; and (l) removal of Mountain Pine Beetle infected trees which does not require prior County approval.

- d. Grading, retaining and revegetation efforts associated with the above improvements are also allowed outside of the disturbance envelopes. Any such efforts must be conducted, and, if necessary, permitted, in accordance with the applicable standards in this Designation, and if applicable, the Development Code.
- e. Wells and OWTs shall be located within the building or disturbance envelopes unless it is demonstrated that it is not practical to locate these improvements within the envelopes due to the design and location of the residences and their driveway, the County's design and separation requirements for wells and OWTs, and/or other soil or site specific conditions within the envelopes. In those cases, the wells and OWTs shall be located as close to the disturbance envelopes as possible, and shall not be located in the 25 foot wetlands setbacks or on slopes in excess of 30 percent. The wells and OWTs shall be designed, located and constructed in a manner that minimizes site disturbance, and shall meet all other applicable County design and permit requirements.

2. Size Requirements and Limitations

There are no minimum requirements or maximum limitations on the residential lot size, building envelope size, disturbance envelope size or residential dwelling unit size for the Property. There are no requirements or limitations on site coverage, and no open space requirements for all structures on the Property as Tract A (Private Open Space) has been designated as private open space which will remain substantially free from development in perpetuity through a restrictive covenant and agreement with the County.

3. Building and Structure Height

All structures, including but not limited to residential and agriculturally related structures, shall be a maximum of 35 feet in height as measured by the Development Code currently in effect at the time of building permit submittal.

4. Design Guidelines

The overall goal of this Designation is to minimize and mitigate the physical and visual impacts of development. All structures on the Property shall be designed to the following standards:

a. Building and Site Design

All building foundations on slopes in excess of 20% shall be stepped so that the mass of the buildings is broken up and fits with the natural terrain as much as practical. Retaining walls shall be used to avoid excessive cut and fill.

b. Building Colors and Materials

Natural and natural appearing exterior materials, as well as natural colors, shall be used to the extent practical to help the structures blend into the natural landscape. Primary colors shall be natural earth toned, dark and/or subdued. Other colors may be used as accents for window trim, fascia trim, deck railings and trim, and other building trim work to provide architectural detail and differentiation. The use of

wood, stone and other natural looking materials, as well as fire retardant materials, are encouraged. Highly reflective glass or highly reflective metal surfaces are prohibited, with the exception of solar energy systems. All structures on the Property are subject to the provisions in this section, and the existing structures addressed in Section A.4 of this Designation are, in their present form, considered to be in compliance with this section.

c. Exterior Lighting

- i. All exterior lighting fixtures shall utilize full cut-off luminaries so that all direct rays are confined to the lot on which they are located, and so that adjacent properties and wildlife are protected from glare. All exterior lighting shall comply with the applicable requirements of this Designation and with Section 3505.07 of the Development Code when not expressly addressed herein.
- ii. Exterior lighting fixtures which are attached to the residential structures shall be limited to a maximum height of 15 feet above finished grade, except for exterior porch or deck lighting which shall be limited to a maximum height of eight (8) feet above the deck or floor area served by such light.
- iii. Free standing lighting fixtures shall be limited to eight (8) feet above finished grade.
- iv. These requirements shall not prohibit the temporary seasonal use of tree or house lighting.

5. Walls and Fences

Walls and fences may be constructed anywhere on the Property, inside or outside of the residential envelopes, and on Tract A (Private Open Space), provided that they do not obstruct visibility at access points. Walls and fences shall be a maximum of six (6) feet above finished grade. Walls constructed on the Property may utilize natural materials such as wood, rock or stone, or other natural appearing materials. Colors shall blend with the natural backdrop. Fences shall be constructed in accordance with all the general standards set forth in Section 3505.17 of the Development Code, as to materials, design, and location, in accordance with the standards for any Agricultural property over 35 acres in size.

- a. The above requirements do not apply to retaining walls constructed on the Property. Retaining walls may be constructed anywhere on the Property, and all retaining walls shall comply with the applicable provisions set forth in the Development Code.
- b. Guardrails for safety along the driveway and/or bridge are permitted without any design limitations subject to applicable regulations in the Development Code, the Manual on Uniform Traffic Control Devices (MUTCD), and the American Association of State Highway and Transportation Officials (AASHTO) Roadside Design Guide.

6. Parking

At least two parking spaces shall be provided for each residential dwelling unit, by means of parking pad, driveway, garage or other parking means allowed under the Development Code. Parking for any additional uses shall comply with the parking requirements of the Development Code in effect at the time of County review and approval for those additional uses.

7. Water Quality—Setback Encroachments and Mitigation

- a. As shown on the Wetland Disturbance and Mitigation Plan (Exhibit C) as well as on the Plan (Exhibit B), the off-site driveway improvements and on-site bridge improvements necessitate encroachments into either the 25 foot streamside setback or into the 25 foot wetlands setback in two areas. The off-site driveway improvements near the Blue River encroach into the 25 foot streamside setback between stations 2+00 – 4+75, approximately, and into the 25 foot wetlands setback between stations 0+75 – 2+20, approximately, and encompass an area of 1,297 square feet. The eastern abutments of the on-site bridge encroach into the 25 foot wetlands setback between Lots 1 and 2 and encompass 2,280 square feet. The 25 foot streamside setback and 25 foot wetlands setback have been maintained in all other areas for the driveway improvements, bridge abutments, and building and site disturbance envelopes.
- b. County approval has been granted for these encroachments per Sections 7103 and 7105 of the Development Code. In those instances where encroachment into the 25 foot wetlands setback has been allowed, mitigation shall be provided on a 1:1.5 replacement basis, in accordance with the applicable mitigation procedures of the Development Code and per the attached Wetland Disturbance and Mitigation Plan. The timing of the improvements shown on the required Wetland Disturbance and Mitigation Plan is described below and in Section C.2 of this Designation, and shall be addressed with greater specificity in a subdivision improvements agreement, site improvements agreements, and other related covenants at the time of development of the Property.
- c. No County review or approval is required for encroachment into the 25 foot wetlands setback on National Forest System (NFS) lands. Separate United States Forest Service environmental review has been conducted through the review and approval of the Private Road Easement issued in July 2014 under authorization identification number: DIL988 and recorded in the records of the Summit County Clerk and Recorder under reception number 1076593.
- d. Approximately 60 square feet of wetlands will be impacted with the off-site driveway improvements on NFS lands near the culvert at station 14+00, approximately. No County review or approval is required for this disturbance as the United States Army Corps of Engineers (Corps) has reviewed and approved a Nationwide Permit (NWP) No. 14 on August 2, 2013 under Permit No. SPK2011-01266. Mitigation has been required and will be overseen by the Corps. The NWP shall be provided to the County prior to issuance of a grading and excavation permit for any driveway work and the mitigation shall be completed in conjunction with the construction of the driveway or as otherwise required by the Corps.

- e. The wetland setback mitigation shall be implemented in accordance with the Wetland Disturbance and Mitigation Plan, when the associated wetland setback disturbance is conducted. Thus, wetland setback mitigation is only required to the extent that the disturbance necessitates, when such disturbance commences. The Wetland Disturbance and Mitigation Plan may be implemented in two phases—one phase associated with the driveway improvements and one phase associated with the on-site bridge improvements. Specifically, if only the driveway is constructed that encroaches approximately 1,297 square feet into the 25 foot wetlands setback area, then only the directly associated wetland setback mitigation is required—not the implementation of the entire Wetland Disturbance and Mitigation Plan. This two phase approach is allowed so that the construction of the on-site bridge will not impact the new on-site wetland mitigation landscaping.
 - f. No Subdivision/Site Improvement Agreement (SIA) or financial guarantee is required for the Wetland Disturbance and Mitigation Plan from the Owner **prior to** the recordation of this Designation and associated subdivision plat. Instead, the SIA shall be submitted prior to the issuance of a grading and excavation permit or building permit for either of the residences for any incomplete work associated with the construction of the driveway, bridge, and/or wetland setback mitigation as further described below and in Section C.2 of this Designation.
 - g. The Wetland Disturbance and Mitigation Plan associated with the common driveway shall be completed and accepted by the County prior to the issuance of a certificate of occupancy for either new residential unit on the Property, and the Wetland Disturbance and Mitigation Plan associated with the on-site bridge construction shall be completed and accepted by the County prior to the issuance of certificate of occupancy for the residential unit on Lot 1. Notwithstanding the foregoing, it is expressly contemplated that a certificate of occupancy may be granted for either residential structure prior to completion of said Wetland Disturbance and Mitigation Plan provided that good cause for such delays in completion exist, and a sufficient agreement and performance bond shall be submitted to the County to ensure full completion and revegetation in accordance with the Wetland Disturbance and Mitigation Plan.
 - h. In accordance with Section 8602 of the Development Code, a SIA and a financial guarantee are required to secure the successful establishment of the constructed wetlands. The warranty period for the constructed wetlands shall be five years, but the financial guarantee shall not be fully released by the County until a qualified wetland consultant determines that the constructed wetlands have been successfully established.
8. Landscaping Improvements
- a. Landscaping improvements are allowed anywhere on the Property, outside of the residential building and disturbance envelopes, and on any portion of Tract A (Private Open Space). Landscaping improvements shall be limited to revegetation of disturbed areas with Summit County native grass seed mix, flowers, shrubs, trees, berms, small rock tree wells and small retaining walls per the applicable requirements of the Development Code. Forest revegetation is also allowed anywhere on the Property. Landscaping and revegetation in the designated wetlands or wetlands

setback area shall only be permitted in accordance with the Wetland Disturbance and Mitigation Plan.

- b. If landscaping material is proposed that requires water to be established, then water must be provided from an approved water source and the material hand-watered until successfully established.
- c. Additional watering of the landscaping improvements is allowed on the Property provided sufficient water rights allowing for outdoor uses have been obtained and approved by the Division of Water Resources.
- d. All areas disturbed by construction, on and off the lots, shall be revegetated with Summit County native grass seed mix or returned to a natural state. The Owner shall take reasonably effective measures to prevent and control the proliferation of noxious weeds on the Property, and off-site along the driveway. Notwithstanding the foregoing, it is expressly recognized that portions of the driveway and bridge improvements are located adjacent to wetlands and/or the Blue River, and appropriate and environmentally sound means of noxious weed control shall be utilized in these areas instead of standard means of weed control such as chemical spraying. Nothing in this Designation shall be construed as to waive Summit County's ability to enforce its weed control regulations as set forth in the Development Code, provided that such regulations have direct application to the Property.

9. Open Space and Trails

- a. Tract A (Private Open Space) shall be owned by a Homeowners Association, in accordance with the Declaration of Covenants, Conditions and Restrictions for the Property, and subject to the Open Space Covenant between such owners and the County, effective and enforceable in perpetuity. The permitted uses are specified in the Open Space Covenant and in Sections A.2 and A.3 of this Designation. Said Open Space Covenant shall include the right to an assignment of redemption interests to the County should the owners fail to remain up to date on their ad valorem taxes for a period of three or more years. The use of Tract A (Private Open Space) shall be generally limited to non-intensive and non-residential historic agricultural uses, which encourage efficient use of land through preservation of ranchland, environmentally sensitive areas, and key open space areas, in accordance with the provisions set forth in the Open Space Covenant. Tract A shall be reserved for the exclusive use and benefit of the Owners of Lots 1 and 2, and not made available for use by the public unless otherwise expressly specified.
- b. No public trail dedications are required in connection with Ver Ploeg Estates Planned Unit Development Designation, as no formal or social trails exist on the Property. No public use area fees are required to be paid as the Property currently allows for two units of density.

10. Wildlife Protection

In addition to the wildlife protection measures included in the Declaration of Covenants, Conditions and Restrictions for the Property, the following measures shall be

implemented in order to minimize the potential impacts to wildlife and improve the overall quality of wildlife habitat on the Property:

- a. Noxious weeds shall be controlled in accordance with Section B.8 of this Designation.
- b. Wildlife friendly fences are encouraged to be used on the Property if fences are desired for uses other than livestock containment.
- c. Bear proof garbage containers shall be used, or the garbage receptacle shall be stored in an enclosed building.

11. Geotechnical Hazards

A Geological Hazard Evaluation and Preliminary Geotechnical Investigation Report ("Report") for the Property was prepared by Golder Associates (Exhibit D) on October 19, 2011 based upon preliminary plans drafted by Range West Engineers and Surveyors dated October 6, 2011. No above ground habitable improvements are allowed outside of the building envelope on Lot 1 due to the recommendations made by Golder and Associates to avoid the hazards associated with the rock fall area on the Property.

Per the recommendation of the Colorado Geological Survey, additional site-specific soils and foundation investigations shall be conducted prior to the issuance of a building permit.

C. Required Improvements

1. Driveway Access and On-Site Bridge Improvements—Design Specifications

- a. Driveway access to the Property crosses neighboring private properties via private access easements recorded under Reception Numbers 423059, 644264 and 1051445, and over NFS lands via a Forest Service Private Road Easement recorded under Reception Number 1076593. Prior to the recordation of the General Subdivision Exemption Plat all necessary access easements shall be secured and recorded.
- b. The driveway and associated improvements serving the Property shall meet all applicable County driveway design requirements set forth in the Development Code except for driving surface width, turning/curve radii and location in order to utilize the existing dirt access driveway as much as possible and reduce the amount of site disturbance associated with the driveway improvements as approved by the County. Specifically, the County has approved the driving surface to be a minimum of 12 feet wide with a minimum inside turning/curve radius of 34 feet and an outside turning/curve radius of 46 feet, and it may be located within 25 feet of the nearby delineated wetlands and encroach upon the 25 foot streamside setback of the Blue River.
- c. Encroachments into the 25 foot streamside setback and 25 foot wetlands setback areas have been approved by the County per Sections 7103 and 7105 of the Development Code based upon the Wetland Disturbance and Mitigation Plan submitted. The driveway improvements shall be constructed utilizing Best Management Practices ("BMPs") to ensure adequate erosion control.

- d. Summit County and the Red, White and Blue Fire Protection District have granted approvals for the design and location of the driveway as shown on the attached Plan.
 - e. In order to protect the Blue River from impacts associated with the construction and use of the driveway, that portion of the driveway between stations 2+25 and 4+50, approximately, which is situated within the 25-foot setback from the Blue River, shall be improved in a manner so as to prevent erosion and sediment deposit into the Blue River resulting from driveway maintenance. Said preventative improvement measures shall include, but are not limited to, one of the following measures: paving with asphalt or concrete, design innovations, other surfacing materials, and/or effective erosion mitigation measures. Such preventative improvement measures shall be approved by the County Engineering Department prior to construction, and the County Engineer may allow for an innovative approach provided that any and all negative impacts to water quality in the Blue River are effectively abated. Snow shall be plowed from the driveway and stacked towards the east, away from the Blue River. Snow melt chemicals shall not be used on the driveway where it is adjacent to the Blue River and wetlands, including existing wetlands and proposed wetlands to be constructed as part of a mitigation effort.
 - f. No further armoring improvements to the eastern bank of the Blue River are necessary. After the County-wide flooding of the Blue River in 1995, the river bank was reconstructed and protected. Based upon empirical evidence, the area is outside of the floodplain and is considered to be stable. No changes to the existing conditions are expected to occur as a result of the driveway improvements. The Owner acknowledges responsibility for the maintenance and repair of the Blue River's eastern bank should the river bank erode and/or fail in the future. All river bank maintenance and repair will follow the applicable process and standards of the County's Water Quality and Control Regulations and the applicable process and standards of the Corps.
2. Driveway Access and On-site Bridge Improvements—Construction Timing and Procedure

The driveway improvements include, but are not limited to, all grading, retaining, surfacing, drainage, revegetation and associated wetlands setback mitigation.

The driveway shown on the Plan may be roughed in or fully improved at any time upon review and approval by the County Engineer of the required driveway construction plans. Driveway construction timing is at the discretion of the Owner of the Property, except that any such construction must adhere to the requirements for permitting, contractual commitment, financial guarantee and completion as set forth herein.

- a. Common Driveway Construction and Related Wetlands Setback Mitigation
 - i. Pursuant to the established and recorded easements across intervening properties, the existing means of access for the Property is recognized as legally established and adequate to allow for the continuation of the existing use of the Property. This Designation specifically recognizes that the timing for any construction and development efforts on the Property for any infrastructure such as the common driveway are specifically tied to the

timing for the development of residential structures upon the lots. Accordingly, per Section 8602.03.2 of the Development Code, a SIA and related financial guarantee for the common driveway improvement for Lots 1 and 2 shall not be required until residential development of either lot is pursued as previously described in Section B.7 and below.

- ii. In light of the foregoing, prior to the issuance of a building permit for a residential structure on either lot, or the issuance of a grading and excavation permit directly related to the development of a residential structure on either lot, if the common driveway improvements and associated wetlands setback mitigation are not completed and accepted by the County, the Owner, or Owner's successors in interest, representing the interests of both Lot 1 and Lot 2, shall execute a SIA to ensure the timely construction of such common driveway improvements and the related wetlands setback mitigation. Prior to the issuance of a certificate of occupancy for a structure on either lot, a financial guarantee shall be submitted by the Owner for any incomplete driveway improvements and associated wetlands setback mitigation. As previously described in Section B.7.h of this Designation the wetland setback mitigation work is subject to a five year warranty period.
- iii. **ALL PROSPECTIVE PURCHASERS OF EITHER LOT ARE BY THIS DESIGNATION HEREBY EXPRESSLY NOTIFIED THAT CONSTRUCTION OF THE SUBJECT COMMON DRIVEWAY IMPROVEMENTS WILL BE MANDATED AS AN ABSOLUTE CONDITION OF RESIDENTIAL DEVELOPMENT OF EITHER LOT, AND THE OWNER OF SUCH RESIDENTIAL IMPROVEMENTS SHALL INCUR THE ADDITIONAL COSTS OF SUCH COMMON DRIVEWAY IMPROVEMENTS.**
- iv. In furtherance of said efforts to provide notice, pursuant to Section 8602.03.2 of the Development Code, and in order to ensure that all conveyances of the Property carry a concurrent understanding of any Owner's obligation to complete the common driveway improvements as set forth in this Designation the Owner is required to execute and record the following documents currently with the recordation of the General Subdivision Exemption Plat for the Property:
 - I. A Driveway Construction Covenant and Agreement specifying that the common driveway improvements have not been constructed, and requiring the construction and/or execution of a SIA for the common driveway improvements from the Owner prior to the issuance of a building permit, or a grading and excavation permit requested directly in association with the development of a residential structure on either lot.
 - II. A plat note notifying prospective Owners that there are no common driveway improvements or wetlands setback mitigation existing at the time of subdivision, and reflecting the requirement for completion of such improvements, or execution of a SIA by the Owners prior to the issuance of a building permit, or a grading and

excavation permit requested directly in association with the development of a residential structure on either lot.

III. A Homeowner's Declaration which also underscores the aforementioned considerations regarding common driveway improvement requirements, and the relative responsibility of the lot Owners to cooperatively address such improvements prior to residential development of the lots.

v. In addition to the foregoing, no certificate of occupancy for a new residential structure on either lot shall be issued unless and until such common driveway improvements and the associated wetlands setback mitigation are complete or an adequate financial guarantee submitted.

b. On-Site Bridge Improvement Construction and Related Wetlands Setback Mitigation

i. The on-site bridge serves only Lot 1 and is not considered part of the above common driveway improvements. The bridge shall be constructed in the location shown on the attached Plan and in connection with the construction of the residence on Lot 1.

ii. The bridge shall meet all applicable Development Code requirements, except that the bridge's abutments may encroach approximately 2,280 square feet into the 25 foot wetlands setback area as approved by the County and as shown on the Wetland Disturbance and Mitigation Plan.

iii. The bridge may be constructed at any time after recordation of this Designation and the associated General Subdivision Exemption Plat with the Summit County Clerk and Recorder, and upon review and approval by the County Engineer of the required bridge construction plans and issuance of the required permits.

iv. On-site bridge construction timing is at the discretion of the Owner of the Property, except that the bridge and associated on-site wetland setback mitigation per the Wetland Disturbance and Mitigation Plan must be constructed by the Owner and approved by the County prior to the issuance of a certificate of occupancy for the residence on Lot 1. In accordance with Section 8602.03.2 of the Development Code, this Designation and associated General Subdivision Exemption Plat may be recorded with the Summit County Clerk and Recorder without the need for a SIA and/or financial guarantee from the Owner for the Lot 1 bridge and/or required Wetland Disturbance and Mitigation Plan plantings.

3. Water Systems

a. The Office of the State Engineer Division of Water Resources ("State Engineer") has indicated that there are sufficient water rights for two residential dwellings on the Property. Each of the residential lots is eligible for one exempt well permit, allowing for household use only.

- b. Water rights may also be available for purchase from the Vidler Water Company or for lease from Summit County Government, and may also be obtained from any other sources made available at the time that acquisition of such rights becomes necessary. In the event additional outdoor water uses for hot tubs, irrigation or other uses are desired by the Owner in the future, then additional augmented water rights must be purchased or leased, or a reasonable, legal alternative such as hauling water must be established to support such uses. Documentation of such augmented water rights must be submitted to the County prior to utilization of the additional water rights.
- c. Water to the residential dwellings shall be provided by individual wells subject to approval by the State Engineer. A copy of the well permit shall be submitted to the County at the time of building permit application for the applicable single family dwelling. For any accessory apartments or caretaker units proposed, documentation of sufficient water rights shall be submitted prior to the issuance of a building permit for such units.
- d. Efforts shall be made to locate the wells inside the building and disturbance envelopes. However, wells are permitted outside of the building and disturbance envelopes if it is not practical to locate them within the envelopes as described in Section B.1 of this Designation.
- e. Prior to the issuance of a certificate of occupancy for any other dwelling unit on Lot 2, disconnection of the gravity water hose connected to the existing Cabin on this lot is required so that the Cabin may be considered non-residential for Planning and Building Department purposes. This requirement shall in no way be construed as requiring the vacation of the water right for the spring, and if such disconnection will serve as an actual or an implicit abandonment of said right, alternative means to ensure no residential use of the Cabin occurs, such as a separate covenant, may be effectuated, expressly in lieu of any disconnection.

4. Wastewater Disposal

Wastewater disposal for the two residential lots shall be provided by individual OWTSS subject to review and approval by the Summit County Environmental Health Department at the time of building permit application. Efforts shall be made to locate the OWTSS inside the disturbance envelopes. However, OWTSS are permitted outside of the disturbance envelopes if it is not practical to locate these systems within the envelopes as described in Section B.1 of this Designation due to prevailing environmental or regulatory considerations. OWTSS are not permitted in the wetlands or in the 25-foot wetlands setback.

5. Utilities

- a. In light of the purpose and intent of this Designation, as set forth in Section A above, and in consideration of the environmental, logistic, and geographic constraints related to attaining the infrastructure and service of conventional, public utility company centralized utilities, the development of the Property, including all utilities related to the residential uses, shall rely on on-site utilities and infrastructure.
- b. Said on-site utilities and infrastructure may include, without limit, propane gas, solar or other alternative and renewable energy systems, back-up generators, cellular

phone service, satellite television and internet, wireless services, and all other available and reasonably capable technology able to serve the reasonably expected needs of the residential use of the Property.

- c. **ALL PROSPECTIVE PURCHASERS OF EITHER LOT ARE BY THIS DESIGNATION HEREBY EXPRESSLY NOTIFIED THAT NO EASEMENTS HAVE BEEN ESTABLISHED FOR CONVENTIONAL PUBLIC UTILITY COMPANY CENTRALIZED UTILITIES TO SERVICE THE PROPERTY. AS THERE ARE NO APPLICABLE UTILITY COMPANIES, AND NO SERVICES TO BE PROVIDED BY ANY SUCH COMPANIES, THERE ARE NO UTILITY LINES, OR EASEMENTS FOR SUCH UTILITY LINES, AVAILABLE TO SERVICE THE PROPERTY AT THE TIME OF ADOPTION OF THIS DESIGNATION.**
- d. In furtherance of said efforts to provide notice, pursuant to Section 8602.03.2 of the Development Code, and in order to ensure that all conveyances of the Property carry a concurrent understanding of any owner's obligation regarding the subject non-conventional utilities, and the lack of any utility easements, the Owner is required to execute and record the following documents with the General Subdivision Exemption Plat for the Property:
 - i. A Utilities Covenant and Agreement specifying that no utility easements or conventional utilities are provided, requiring a proposed utility design for each lot prior to construction of a residence, and affording the County the right to ensure that such covenant is properly enforced.
 - ii. A plat note underscoring the fact that there are no utility easements or traditional/conventional utilities available on the Property, and that all such utilities must be "off the grid."
 - iii. A Homeowner's Declaration which also underscores the lack of any existing traditional/conventional utility easements and the above considerations regarding alternative utilities.
- e. Small scale solar energy systems, or other types of renewable energy system as defined by the Development Code, may be used to provide electricity or any other sources of power to the Property. The renewable energy systems shall be incidental and subordinate to the principal uses established and located on the Property, and shall be used to provide private energy for the Property.
- f. A solar system feasibility analysis has been conducted by Innovative Energy. Said analysis found that it is possible to construct two solar systems on the Property to generate electricity for full time occupancy of 6,000 square foot homes on well and septic systems. The analysis states that the systems can be roof mounted or free standing, and located in the envelopes or outside the envelopes on the southern portion of Lot 2. The size of the systems will depend upon the final size of the homes and the electrical load estimation. The solar electric systems can be designed to accommodate larger houses and loads, or smaller houses and loads.

In consideration of the foregoing factors, the design of a solar system or other alternative energy system capable of servicing the residences shall be submitted with the building plans for the applicable residential structure it is to serve.

- g. Efforts shall be made to locate the renewable energy systems inside the building and disturbance envelopes. However, renewable energy systems are permitted outside of the building and disturbance envelopes if it is not practical to locate these systems within the envelopes as described in Section B.1 of this Designation. All renewable energy systems shall be located a minimum of ten (10) feet from property lines. The systems shall comply with the 25 foot wetlands setback requirements of the Development Code and shall not be located on slopes in excess of 30 percent. The renewable energy systems may not obstruct vision at access points. All other applicable requirements of the Development Code shall be met.
- h. In addition to the foregoing, no certificate of occupancy for the residential structure on either lot shall be issued unless and until such alternative, off the grid utility improvements are complete and functional to service the residential structure.
- i. Fuel powered or propane powered generators may be used for emergency back-up power. Generators shall be placed underground or in a fully enclosed, four-sided building that minimizes noise impacts. Noise shall not exceed the standards for residential noise established under Summit County Ordinance 12. Above and below ground generators, propane or other approved residential fuel tanks are allowed outside of the building and disturbance envelopes per Section B.1 of this Designation, but must maintain the 25 foot wetland setback requirement and may not be located on slopes 30% or greater. Setbacks for the structures housing fuel powered generators and propane tanks are 10 feet from the property lines as described above in this Designation and other applicable provisions of the Development Code.
- j. Should any future Owner desire conventional utility services to serve the Property, the necessary utility easements must be obtained from a nearby property owner(s) and the United States Forest Service, and any installation of the new utility lines shall be subject to the standards of each utility provider and the Development Code regulations. **It is expressly understood that the future Owner seeking to install such utilities must take all responsibility for the ability and feasibility of obtaining such utility easements.** A plat note has been added to the General Subdivision Exemption Plat that specifies the terms of the utilities on-site.

6. Fire Protection and Wildfire Hazard Mitigation

The Property is located within the jurisdiction of the Red, White and Blue Fire Protection District ("District"). All development on the Property shall meet all fire protection requirements of the District, and comply with the County's wildfire hazard mitigation requirements concurrent with the building permit process.

A residential sprinkler system that meets the requirements of the District and the County Building Codes shall be installed in each single family dwelling regardless of the dwelling's size.

If required by the District at the time of building permit submittal for any residential structure on the Property, a 4,000 gallon cistern shall be installed in the location shown on the Plan or in a location otherwise approved by the District and the County.

7. Forest Management

A “Forest Management Plan for the Ver Ploeg Tracts” dated June 21, 2011 has been prepared by Alpine Tree Services (Exhibit E). The tree cutting recommendations contained within the Forest Management Plan have been implemented in order to improve the forest’s overall health, improve wildlife habitat, and reduce the potential for wildfire. The Owners are responsible for carrying out the recommendations of the Forest Management Plan as per this Designation. Forest Management improvements may be allowed anywhere on the Property—inside or outside of the building and disturbance envelopes and within Tract A (Private Open Space) upon review and approval by the County. Grading permits will be required for the construction of any roads associated with the execution of the Forest Management Plan. The removal of trees infested with Mountain Pine Beetle does not require prior County approval.

D. Implementation

1. Platting Requirement

A General Subdivision Exemption Plat and its associated documents shall be recorded concurrently with or subsequent to the recordation of this Designation with the Summit County Clerk and Recorder. The General Subdivision Exemption Plat and this Designation may be recorded with the Summit County Clerk and Recorder without the need for the construction of the driveway or on-site bridge and related improvements, or for the submission of a SIA or financial guarantee for these improvements by the Owner as called for in the Development Code. (Please see Sections B.7.f, B.7.g and C.2 of this Designation for details.)

2. Recordation

The following documents shall be recorded with the Summit County Clerk and Recorder in relation to the Property:

a. Ver Ploeg Estates Planned Unit Development Designation which includes the following exhibits:

Exhibit A: Legal Description

Exhibit B: Development Plan

Exhibit C: Wetland Disturbance and Mitigation Plan

Exhibit D: Geological Hazard Evaluation and Preliminary Geotechnical Investigation

Exhibit E: Forest Management Plan for the Ver Ploeg Tracts

b. General Subdivision Exemption Plat for Ver Ploeg Estates which includes the following associated documents recorded in this order:

- i. Declaration of Covenants, Conditions and Restrictions for Ver Ploeg Estates
- ii. Open Space Covenant and Agreement

- iii. Utilities Covenant and Agreement
- iv. Driveway Construction Covenant and Agreement
- v. Agreement for the Preservation of Association Maintenance Responsibilities

3. Homeowners Association

A Homeowners Association shall be formed prior to the recordation of the General Subdivision Exemption Plat for Ver Ploeg Estates in order to ensure maintenance and repair of the driveway (both on and off Property) and Tract A (Private Open Space), and for all other purposes deemed necessary by Owner. The Declaration of Covenants, Conditions and Restrictions for the Property shall be recorded concurrently with the General Subdivision Exemption Plat.

E. General Provisions

1. Enforcement

The provisions of this Designation and the Plan relating to the use of land and Tract A (Private Open Space) shall run in favor of the County and shall be enforceable at law or in equity by the County without limitations on any power or regulation otherwise granted by law. Other provisions of this Designation and the Plan shall run in favor of the residents, occupants, or land Owners of the Property, but only to the extent expressly provided in, and in accordance with the terms of this Designation and the Plan. Provisions not expressly stated as running in favor of the residents, occupants or Owners of the Property shall run in favor of the County.

2. Breach of Provisions

If at any time, any provision or requirements stated in this Designation have been breached by the Owner, the County may withhold approval of any or all site plans or plat maps, or the issuance of any or all grading or building permits or occupancy permits applied for on the Property, until such breach has been remedied; provided, however, that the County shall not take affirmative action on the account of such breach until it shall have first notified the Owner in writing and afforded the Owner a reasonable opportunity to remedy the same.

3. Binding Effect

This Designation shall run with the land and be binding upon the Owner, their respective successors, representatives and assigns, and all persons who may hereafter acquire an interest in the Property or any part thereof, with the exception that provisions of this Designation may be modified through an amendment in accordance with the procedure stated in the Development Code. This Designation shall be recorded in order to put prospective purchasers or other interested persons on notice as to the terms contained herein.

4. Amendments

Chapter 12 of the Development Code includes procedures and requirements for review of all Planned Unit Developments. The Owner shall be on notice of these requirements and their potential impact should modifications to this Designation be desired.

Amendments to the provisions of this Designation shall be reviewed and acted upon as a rezoning application, subject to the County's procedures for zoning amendments and the requirements for findings under the Planned Unit Development Act of 1972 at CRS Section 24-67-106(3)(b), unless such amendment is determined to be minor in nature in accordance with the provisions outlined in the Development Code.

5. Notices

All notices required by this Designation shall be in writing and shall be either hand-delivered or sent by certified mail, return receipt requested, postage pre-paid, as follows:

Notice to County:

Board of County Commissioners
Post Office Box 68
Breckenridge, Colorado 80424

Notice to Owner:

Brenton N. Ver Ploeg
1980 Tigertail Avenue
Coconut Grove, Florida 33133

Kathryn A. Verwillow
353 Kingsley Avenue
Palo Alto, California 94301

Ver Ploeg and Hassing Living Trust dated
December 14, 2004
2061 Camino Al Lago
Menlo Park, California 94027

6. Entire Designation

This Designation contains all provisions and requirements incumbent upon the Owner relative to Ver Ploeg Estates Planned Unit Development, except as modified by subsequent action of the Board of County Commissioners in accordance with the procedures set forth in the Development Code and the Colorado Planned Unit Development Act (CRS Section 24-67-106) for amending planned unit developments, and except that nothing contained herein shall be construed as waiving any requirements of the Development Code or other regulations otherwise applicable to the development of the Property.

7. Effective Date

To be legally effective and binding, this Designation must be recorded by the Summit County Clerk and Recorder. The date of such recording is referred to herein as the "Effective Date."

8. Legality of Provisions

In the case one or more of the provisions contained in this Designation, or any application thereof, shall be invalid, illegal or unenforceable in any respect, the validity, legality and enforceability of the remaining provisions contained in this Designation and the application thereof shall not in any way be affect or impaired thereby.

IN WITNESS WHEREOF, the County and the Owners have executed this Designation as of the date first written above.

BOARD OF COUNTY COMMISSIONERS
OF SUMMIT COUNTY, COLORADO



[Signature]
Dan Gibbs, Chair
Summit County BOCC

ATTEST:

Kathleen Neel
Kathleen Neel, Clerk and Recorder

Brenton N. Ver Ploeg, Owner

Kathryn A. Verwillow, Owner

Eric Ver Ploeg as Trustee
Ver Ploeg and Hassing Living Trust dated
December 14, 2004

IN WITNESS WHEREOF, the County and the Owners have executed this Designation as of the date first written above.

ATTEST:


Brenton N. Ver Ploeg, Owner

Eric Ver Ploeg as Trustee
Ver Ploeg and Hassing Living Trust dated
December 14, 2004

In the case one or more of the provisions contained in this Designation, or any application thereof, shall be invalid, illegal or unenforceable in any respect, the validity, legality and enforceability of the remaining provisions contained in this Designation and the application thereof shall not in any way be affected or impaired thereby.

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BOARD OF COUNTY COMMISSIONERS
OF SUMMIT COUNTY, COLORADO



[Signature]
Dale Gibbs, Chair
Summit County BOCC

ATTEST:

Kathleen Neel
Kathleen Neel, Clerk and Recorder

Brenton N. Ver Ploeg, Owner

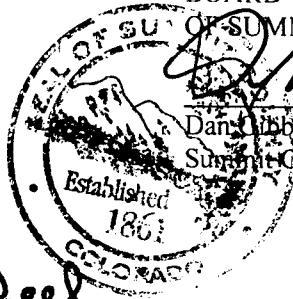
[Signature]
Kathryn A. Verwillow, Owner

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BOARD OF COUNTY COMMISSIONERS
OF SUMMIT COUNTY, COLORADO



Dan Gibbs
Dan Gibbs, Chair
Summit County BOCC

ATTEST:

Kathleen Neel
Kathleen Neel, Clerk and Recorder

Brenton N. Ver Ploeg, Owner

Kathryn A. Verwillow, Owner

Eric Ver Ploeg
Eric Ver Ploeg as Trustee
Ver Ploeg and Hassing Living Trust dated
December 14, 2004

**VER PLOEG ESTATES
PLANNED UNIT DEVELOPMENT DESIGNATION**

ATTACHMENTS

- Exhibit A: Legal Description**
- Exhibit B: Development Plan**
- Exhibit C: Wetland Disturbance and Mitigation Plan**
- Exhibit D: Geological Hazard Evaluation and Preliminary Geotechnical Investigation
Report**
- Exhibit E: Forest Management Plan for the Ver Ploeg Tracts**

EXHIBIT "A"

LEGAL DESCRIPTION
VER PLOEG ESTATES


A TRACT OF LAND BEING ALL OF THE COOLIDGE PLACER, L.M.E. 0539, WHICH IS ALL OF THE NW ¼ SW ¼ SE ¼ AND THE SW ¼ NW ¼ SE ¼ OF SECTION 6, TOWNSHIP 6 SOUTH, RANGE 77 WEST OF THE SIXTH PRINCIPAL MERIDIAN, COUNTY OF SUMMIT, STATE OF COLORADO, ACCORDING TO THE PATENT DATED APRIL 4, 1912 (NO. 256998), AND ALONG WITH ALL OF GOVERNMENT LOT 6, LOCATED IN THE SOUTHWEST ONE-QUARTER (SW ¼) OF SAID SECTION 6; SAID TRACT IS DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTH ONE-QUARTER CORNER OF SAID SECTION 6, BEING A 3" BRASS CAP ON A STEEL PIPE SET BY CECIL BROYLES, P.L.S. 2690, IN 1972, WHENCE THE CENTER ONE-QUARTER CORNER FOR SECTION 6, ALSO BEING A 3" BRASS CAP ON STEEL PIPE, P.L.S. 2690, BEARS N01°02'40"E A DISTANCE OF 3,058.18 FEET, SAID MONUMENTS ESTABLISHING THE CENTERLINE FOR THE SOUTH ONE-HALF OF SAID SECTION 6; THENCE N01°02'40"E ALONG SAID CENTERLINE FOR SECTION 6 A DISTANCE OF 764.54 FEET TO A POINT BEING THE SOUTHWEST CORNER OF SAID NW ¼ SW ¼ SE ¼ OF SECTION 6 (COOLIDGE PLACER), AND THE POINT OF BEGINNING; THENCE CONTINUING N01°02'40"E ALONG SAID CENTERLINE A DISTANCE OF 890.74 FEET TO A POINT BEING THE SOUTHEAST CORNER OF SAID GOVERNMENT LOT 6; THENCE S84°54'57"W ALONG THE SOUTH LINE OF SAID LOT 6 A DISTANCE OF 676.40 FEET TO THE SOUTHWEST CORNER OF SAID LOT 6 BEING A REBAR AND ALUMINUM CAP, P.L.S. 2690; THENCE ALONG THE WEST BOUNDARY FOR SAID GOVERNMENT LOT 6 FOR THE FOLLOWING FOUR (4) COURSES:

- 1.) N32°45'33"W A DISTANCE OF 540.88 FEET TO A POINT BEING THE SOUTHEAST CORNER OF LOT 2, GLEN HAVEN, ACCORDING TO THE PLAT RECORDED AT RECEPTION NO. 447961, BEING A REBAR WITH RED PLASTIC CAP, P.L.S. 9939;
- 2.) N32°35'10"W ALONG THE WEST LINE OF SAID LOT 2 A DISTANCE OF 486.69 FEET TO THE SOUTHEAST CORNER OF LOT 1R, SKAHILL/DRAWBERT SUBDIVISION, ACCORDING TO THE PLAT RECORDED AT RECEPTION NO. 592595;
- 3.) N32°48'33"W ALONG THE EAST LINE OF SAID LOT 1R A DISTANCE OF 211.85 FEET;
- 4.) N00°34'56"W ALONG SAID EAST LINE A DISTANCE OF 275.80 FEET TO CORNER NO. 4, OF THE BLUE RIVER PLACER NO. 17, M.S. NO. 18461, ALSO BEING THE NORTHWEST CORNER OF GOVERNMENT LOT 6, BEING AN ORIGINAL STONE MONUMENT, REPLACED WITH REBAR AND CAP, P.L.S. 15242;

THENCE N84°00'52"E ALONG THE NORTH LINE OF SAID GOVERNMENT LOT 6 A DISTANCE OF 1,379.22 FEET TO SAID CENTER ONE-QUARTER CORNER OF SECTION 6; THENCE S01°02'40"W ALONG SAID CENTERLINE OF SECTION 6 A DISTANCE OF 764.54 FEET TO THE NORTHWEST CORNER OF SAID SW ¼ NW ¼ SE ¼ OF SECTION 6 (COOLIDGE PLACER); THENCE N85°20'05"E ALONG THE NORTH LINE OF SAID COOLIDGE PLACER (SW ¼ NW ¼ SE ¼) A DISTANCE OF 664.81 FEET TO THE NORTHEAST CORNER; THENCE S01°02'40"W ALONG THE EAST LINE OF COOLIDGE PLACER (SW ¼ NW ¼ SE ¼ AND NW ¼ SW ¼ SE ¼) A DISTANCE OF 1,559.86 FEET; THENCE S87°59'03"W ALONG THE SOUTH LINE OF SAID COOLIDGE PLACER A DISTANCE OF 662.45 FEET TO THE POINT OF BEGINNING, CONTAINING 58.248 ACRES, MORE OR LESS.

PREPARED BY:


TERRY C. BARNES, P.L.S.
COLORADO LICENSE NO. 15242



Feb. 10, 2014
DATE

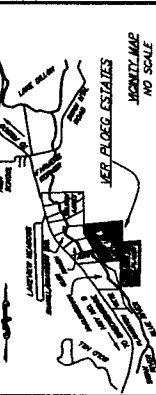
PREPARED FOR: BRENTON VER PLOEG
PROJECT NO.: 19907-411

6210/12/152

Ver Ploeg Estates Planned Unit Development

Summit County, Colorado

EXHIBIT B

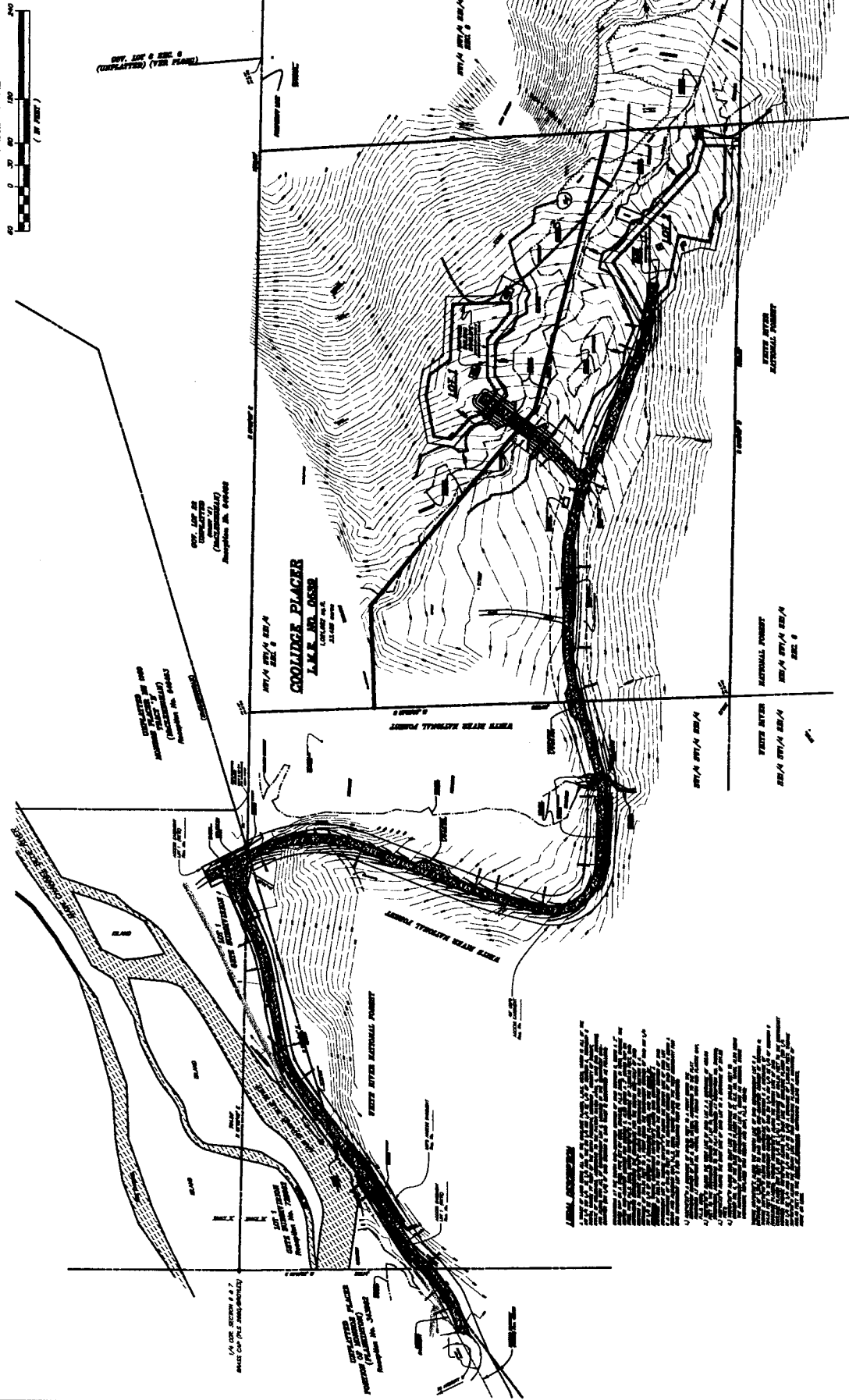


Consisting Engineers - Land Surveyors - Construction Monitors
 R-A-N-G-E-W-E-S-T
 INC.
 P.O. Box 500 Silverthorne, CO 80488 Phone 303-468-3281 Denver District 823-0425

VER PLOEG ESTATES
 SUMMIT COUNTY, COLORADO
 NO. 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100

PLANNED UNIT
 DEVELOPMENT
 EXHIBIT B

Sheet: 1 of 1
 EX-B



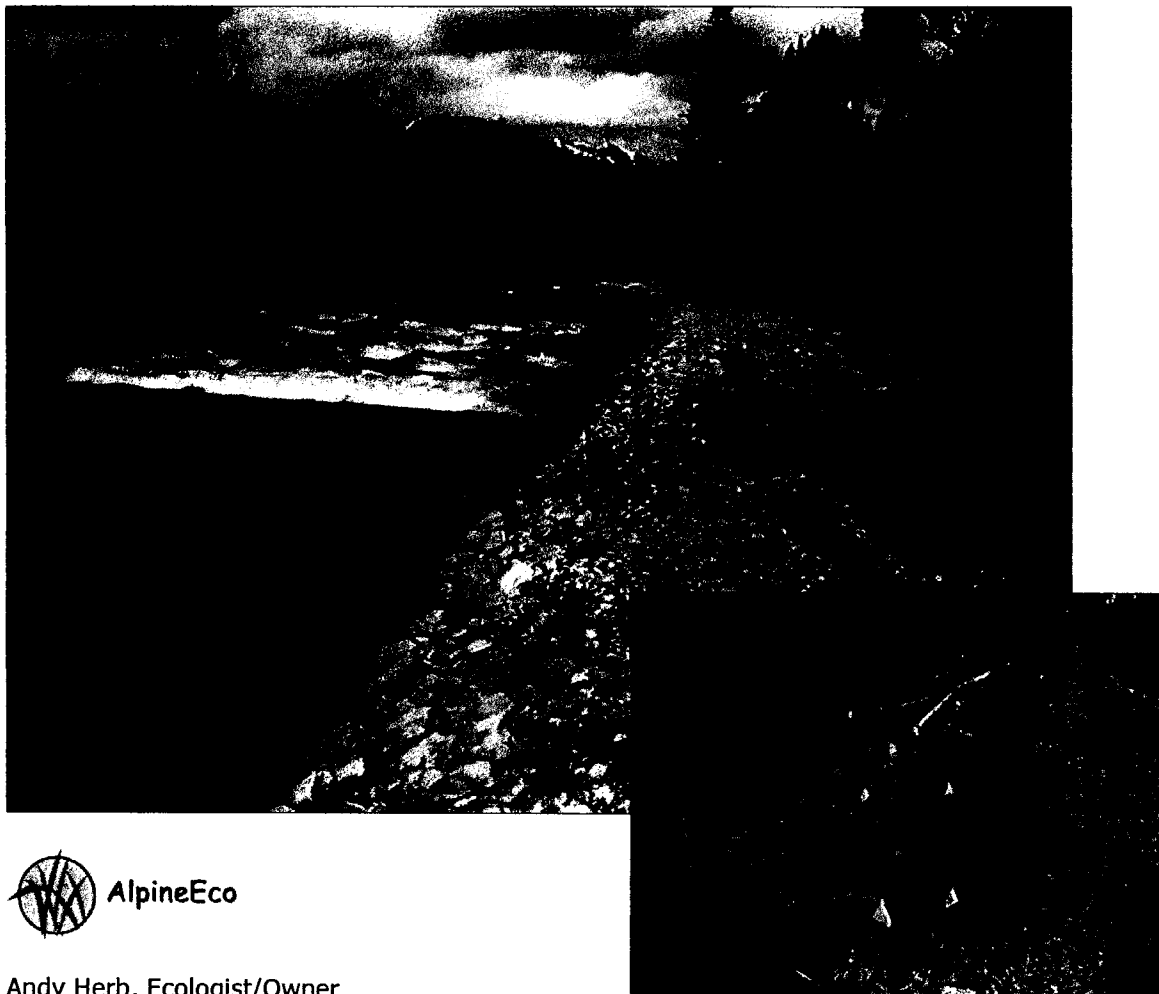
VER PLOEG ESTATES / SUMMIT COUNTY, COLORADO / EXHIBIT B / SHEET 1 OF 1 / 1987

Alpine Ecological Resources, LLC

Wetland Disturbance and Mitigation Plan

Ver Ploeg Property
Summit County, Colorado

*Prepared for: The Ver Ploeg Family
February 29, 2012*



Andy Herb, Ecologist/Owner
1127 Adams Street
Denver, CO 80206

Ver Ploeg Property

Wetland Disturbance and Mitigation Plan

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Table 2 — Wetland Disturbance

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Appendix B — Section 404 Nationwide Permit Authorization Request Submittal



Ver Ploeg Property

Wetland Disturbance and Mitigation Plan

1.0 Introduction

1.1 Project Description

The project involves improving approximately 2,100 linear feet of an existing driveway to Summit County standards as part of the development of two building sites/envelopes on the Ver Ploeg Property (Property). The improved driveway will have a 12-foot wide driving surface with 4 inches of Class 6 roadbase. Boulder retaining walls will be installed in some areas with steep side slopes. The project will only result 60 square feet (sf) of impacts to one small wetland on US Forest Service (USFS) property located approximately 200 feet below a spring. Although a portion of the improved driveway is on the Blue River floodplain and there is one crossing of an unnamed tributary (new bridge), these waterways and their wetlands will not be impacted by the project. However, there will be two small encroachments into wetland setbacks in these areas for a total of 3,577 sf. Construction drawings for the project are in **Appendix A**.

1.2 Project Location

The 11-acre study area is located at 15200 Highway 9, which is between Frisco and Breckenridge, in Summit County, Colorado (**Figure 1**). It is situated just east of the Blue River and can be found on the Frisco, Colorado US Geological Survey 7.5-minute quadrangle. It is located in Township 6 South, Range 77 West, and Section 6, and has the following coordinates:

- Universal Transverse Mercator (UTM):
 - South end: 13 410638E, 4378419N
 - North end: 13 410763E, 4378926N
- Latitude/Longitude:
 - South end: 39.550806° N, -106.040089° W
 - North end: 39.555386° N, -106.038704° W

Ver Ploeg Property

Wetland Disturbance and Mitigation Plan

2.0 Site Description

2.1 Methods

Andy Herb (senior ecologist) walked the entire study area on July 26 and 29, 2011 to identify wetlands and other habitats. Wetlands were delineated within the defined study area using procedures outlined in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountain, Valleys, and Coast Region* (Corps 2010). This involved a detailed examination of plants, soils, and hydrologic indicators. All plant nomenclature in this report and its attachments follows the Plants Database website (NRCS 2011), unless otherwise noted.

2.2 General Site Description

The study area is located at approximately 9,100 feet above mean sea level in the Sedimentary Subalpine Forests of the Southern Rockies Ecoregion (EPA 2011). The site is also in the Southern Rocky Mountains Major Land Resource Area (MLRA) of the Rocky Mountain Range and Forest Land Resource Region (LRR) (NRCS 2006). The eight digit hydrologic unit code (HUC) is 14010002 (Blue). This area is generally characterized by low density residential development in mostly forested areas.

The study area is very diverse ecologically and includes some White River National Forest lands. The lower portion (southwestern edge) of the study area is on the Blue River floodplain; the middle portion is situated within a lodgepole pine (*Pinus contorta*) woodland, which is contiguous with a very large area to the east; and the upper portion (northeastern edge) is along an unnamed tributary to the Blue River (**Figure 2**). There is a large wetland complex associated with the unnamed tributary and its tributaries (including at least one spring) that may contain several areas of peatland (fen). The spring originates outside of the study area and the peatland areas are on the very perimeter of the study area near the middle and northeastern edges (outside any areas of impact).

2.3 Wetland Description

Approximately 1.09 acres of wetlands were delineated in the 11-acre study area. These wetlands are associated with the Blue River or part of the large wetland complex associated with the unnamed tributary and its tributaries, including the spring (**Figure 2**). The wetlands are classified according to Cowardin, et al. (1979) as palustrine scrub/shrub (PSS) and palustrine emergent (PEM). They are classified according to the Hydrogeomorphic (HGM) classification as riverine and slope (Brinson 1993). All of the wetlands are expected to be jurisdictional under Section 404 of the Clean Water Act since they are "directly abutting" the Blue River or its tributary, both of which are at least "relatively permanent" waters (Corps 2007; 2008). **Table 1** lists each of the wetlands delineated in the study area.

Ver Ploeg Property

Wetland Disturbance and Mitigation Plan

Table 1: Wetlands in the Study Area

Wetland	Description	Cowardin Classification	HGM Classification	Expected to be Jurisdictional?	Area (acres)
Wetland A	Wetlands associated with the Blue River	PSS	Riverine	Yes	0.04
Wetland B	Wetlands associated with the spring and groundwater discharge areas downgradient	PEM	Slope	Yes	0.47
Wetland C	Wetlands associated with the unnamed tributary and its floodplain	PSS	Riverine	Yes	0.58
				Total	1.09

Detailed information on the wetlands (and habitats immediately adjacent) is provided in the Section 404 Nationwide Permit authorization request in **Appendix B**. The request was submitted to the US Army Corps of Engineers in December 2011 and approval is pending.

Ver Ploeg Property

Wetland Disturbance and Mitigation Plan

3.0 Wetland Disturbance

The project will not disturb any wetlands on private land.

Unavoidable impacts on USFS land include the permanent loss of 60 square feet (sf) of wetlands. These losses are associated with the placement of 3 cubic yards (cy) of rock and soil for the widening of the driveway at Wetland B, approximately 200 feet below the spring. This work includes the replacement of an existing 12-inch diameter, 20-foot long corrugated metal pipe (CMP) and the installation of a small boulder retaining wall on the downstream end. The new culvert will be a 15-inch by 21-inch arch CMP 26 feet long with flared end sections. The impact area is shown on Sheet C2 of the construction drawings in **Appendix A** and summarized in **Table 2**.

Table 2: Wetland Disturbance¹

Wetland	Description	Nature of Disturbance	Area of Disturbance (sf)
Wetland A	Wetlands associated with the Blue River	None	0
Wetland B	Wetlands associated with the spring and groundwater discharge areas downgradient	Widen existing driveway to County standards (lengthen existing culvert)	60
Wetland C	Wetlands associated with the unnamed tributary and its floodplain	None	0
Total			60

¹The project will not disturb any wetlands on private land.

Ver Ploeg Property

Wetland Disturbance and Mitigation Plan

4.0 Wetland Setback Disturbance

Unavoidable impacts to the wetland setback include the permanent loss of 3,577 sf on private lands. These losses are associated with widening the existing driveway at Wetland A and the placement of fill for the new bridge abutments for the unnamed tributary at Wetland C. All setback disturbances at Wetland B are on USFS lands and are not included here. The impact areas are shown on the construction drawings in **Appendix A** and summarized in **Table 3**.

Table 3: Wetland Setback Disturbance

Setback	Description	Nature of Disturbance	Area of Disturbance (sf)
Wetland A Setback	Wetlands associated with the Blue River	Widening existing driveway	1,297
Wetland B Setback	Wetlands associated with the spring and groundwater discharge areas downgradient	No setback impacts on private land; all USFS land	0
Wetland C Setback	Wetlands associated with the unnamed tributary and its floodplain	Installation of abutments for new bridge	2,280
		Total	3,577

Ver Ploeg Property

Wetland Disturbance and Mitigation Plan

5.0 Compensatory Mitigation

In order to compensate for the 60 sf of wetlands and 3,577 sf of wetland setback permanently lost as a result of the project, nearby existing wetland and wetland setback areas will be enhanced by planting 185 native shrubs. The plants to be installed in these areas are listed in **Table 4**.

Table 4: Shrubs to be Planted for Compensatory Mitigation

Common Name	Scientific Name	Quantity for Mitigation		
		Wetland	Setback	Total
Resin birch	<i>Betula glandulosa</i>	5	10	15
Shrubby cinquefoil	<i>Dasiphora fruticosa</i>	10	50	60
Prickly currant	<i>Ribes lacustre</i>	5	20	25
Twinberry honeysuckle	<i>Lonicera involucrata</i>	5	20	25
Park willow	<i>Salix monticola</i>	20	10	30
Drummond's willow	<i>Salix drummondiana</i>	20	10	30
	Total	65	120	185

Wetland Mitigation

As discussed in the Section 404 permit authorization request submittal (**Appendix B**), a total of 65 shrubs will be planted adjacent to the Blue River in order to compensate for the 60 sf of wetlands lost (**Figure 2**). These shrubs will be planted along the east bank of the Blue River (west of the improved driveway), in an area encompassing approximately 1,200 sf. The shrubs will be 1-gallon (or similar) containerized plants and will be planted as directed by a qualified ecologist. Willows cuttings are not recommended because installation would be very difficult in the rocky soils.

The willows (*Salix* spp.) and resin birch plants will be installed in areas that are saturated for the majority of the growing season (immediately adjacent to the channel), whereas the other shrubs will be planted in areas at least saturated during spring runoff or after storm events when the river is high.

Wetland Setback Mitigation

A total of 120 shrubs will be planted in order to compensate for the 3,577 sf of wetland setback lost. These shrubs will be planted in two areas, encompassing a total of 5,500 sf, shown in **Figure 2** (the exact location of these plantings will be directed by a qualified ecologist):

- **Mitigation Area 1:** adjacent to the wetland mitigation area along the Blue River; 1,700 sf; 20 shrubs (in addition to the 65 shrubs planted for wetland mitigation)
- **Mitigation Area 2:** around both abutments for the new bridge over the unnamed tributary; 3,800 sf; 100 shrubs

Ver Ploeg Property

Wetland Disturbance and Mitigation Plan

In addition, all areas disturbed for the construction of the bridge abutments and new fill areas (including the side slopes of the embankment), will be seeded with the native seed mix shown in **Table 5**.

Table 5: Native Seed Mix¹

Common Name	Scientific Name	Percent of Seed Mix	Pure Live Seed Needed (pounds/acre) ²
Mountain Brome	<i>Bromus marginatus</i>	19.6	1.96
White Yarrow	<i>Achillea millefolium</i>	0.3	0.03
Colorado Columbine	<i>Aquilegia coerulea</i>	0.07	0.01
Rayless Arnica	<i>Arnica parryi</i>	0.07	0.01
Aspen Paintbrush	<i>Castilleja miniata</i>	0.07	0.01
Western Larkspur	<i>Delphinium occidentale</i>	4.2	0.42
Tufted Hairgrass	<i>Deschampsia cespitosa</i>	4.2	0.42
Blue Wildrye	<i>Elymus glaucus</i>	4.2	0.42
Slender Wheatgrass	<i>Elymus trachycaulus</i>	18.2	1.82
Fireweed	<i>Epilobium angustifolium</i>	1.5	0.15
Sulfur Flower	<i>Eriogonum umbellatum</i>	3.6	0.36
Dogtooth Violet	<i>Erythronium grandiflorum</i>	0.07	0.01
Rocky Mountain Fescue	<i>Festuca saximontana</i>	7.0	0.70
Thurber's Fescue	<i>Festuca thurberi</i>	1.4	0.14
Prairie Smoke	<i>Geum triflorum</i>	1.5	0.15
Orange Mountain Daisy	<i>Helenium hoopesii</i>	3.0	0.30
Aspen Sunflower	<i>Helianthella quinquenervis</i>	1.8	0.18
Junegrass	<i>Koeleria macrantha</i>	3.5	0.35
Silver Lupine	<i>Lupinus argenteus</i>	3.0	0.30
Elephant Head	<i>Pedicularis groenlandica</i>	3.0	0.30
Rydberg's Penstemon	<i>Penstemon rydbergii</i>	3.0	0.30
Rocky Mountain Penstemon	<i>Penstemon strictus</i>	3.0	0.30
Big Bluegrass	<i>Poa ampla</i>	6.3	0.63
Alpine Bluegrass	<i>Poa alpina</i>	5.6	0.56
Pasque Flower	<i>Pulsatilla patens</i>	0.30	0.03
Arrowhead Groundsel	<i>Senecio triangularis</i>	1.5	0.15
		100	10.0

¹Seed mix and nomenclature from Western Native Seed (Western 2012).

²Seeding rate is based on drill-seeding and will be doubled if hand-broadcast.

The shrubs will be installed in areas that are saturated to within approximately 18 inches of the ground surface for a portion of the growing season. Seed will be installed at 10 pounds of pure live seed per acre if drill-seeded. If seed is hand-broadcast, the seeding

Ver Ploeg Property

Wetland Disturbance and Mitigation Plan

rate will be doubled. All seeded areas will be mulched with weed-free straw. All straw will be sprayed with cellulose-based tackifier or crimped. Seeding must be done when the ground is not frozen.

Other Mitigation Measures

In addition to complying with the standard items A through P in *Section 7105.05 in the Summit County Development Code* and the compensatory mitigation above, the following mitigation measures will be employed during construction to further minimize adverse impacts to wetlands and other water features:

- Unnecessary impacts will be avoided during construction by placing silt fence, erosion logs, or other fencing at the limits of permanent wetland impact and along the perimeter of any other wetlands within 15 feet.
- If there must be vehicle access in wetlands or wetland setback areas outside the limits of permanent impacts, the vehicles must be tracked (no rubber tire vehicles) and travel straight across without turning.
- Equipment will be refueled in designated contained areas, a minimum of 50 feet from wetlands and other water features.

Ver Ploeg Property

Wetland Disturbance and Mitigation Plan

6.0 Grading and Erosion Control Plan

Per *Section 7105.04 of the Summit County Development Code*, grading and erosion control measures to be implemented for the project are listed on Sheet C2 of the construction drawings in **Appendix A**. In addition, all areas of fill for the improved driveway (other than the actual driving surface), and other disturbed areas will be seeded with the native seed mix listed in **Table 5**.

Seed will be installed at 10 pounds of pure live seed per acre if drill-seeded. If seed is hand-broadcast, the seeding rate will be doubled. All seeded areas will be mulched with weed-free straw. All straw will be sprayed with cellulose-based tackifier or crimped. Seeding must be done when the ground is not frozen.

Ver Ploeg Property

Wetland Disturbance and Mitigation Plan

7.0 Literature Cited

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Cowardin, Lewis M., Virginia Carter, Francis C. Golet, and Edward T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. U.S. Department of the Interior, Fish and Wildlife Service, FWS/OBS-79/31.

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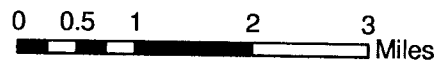
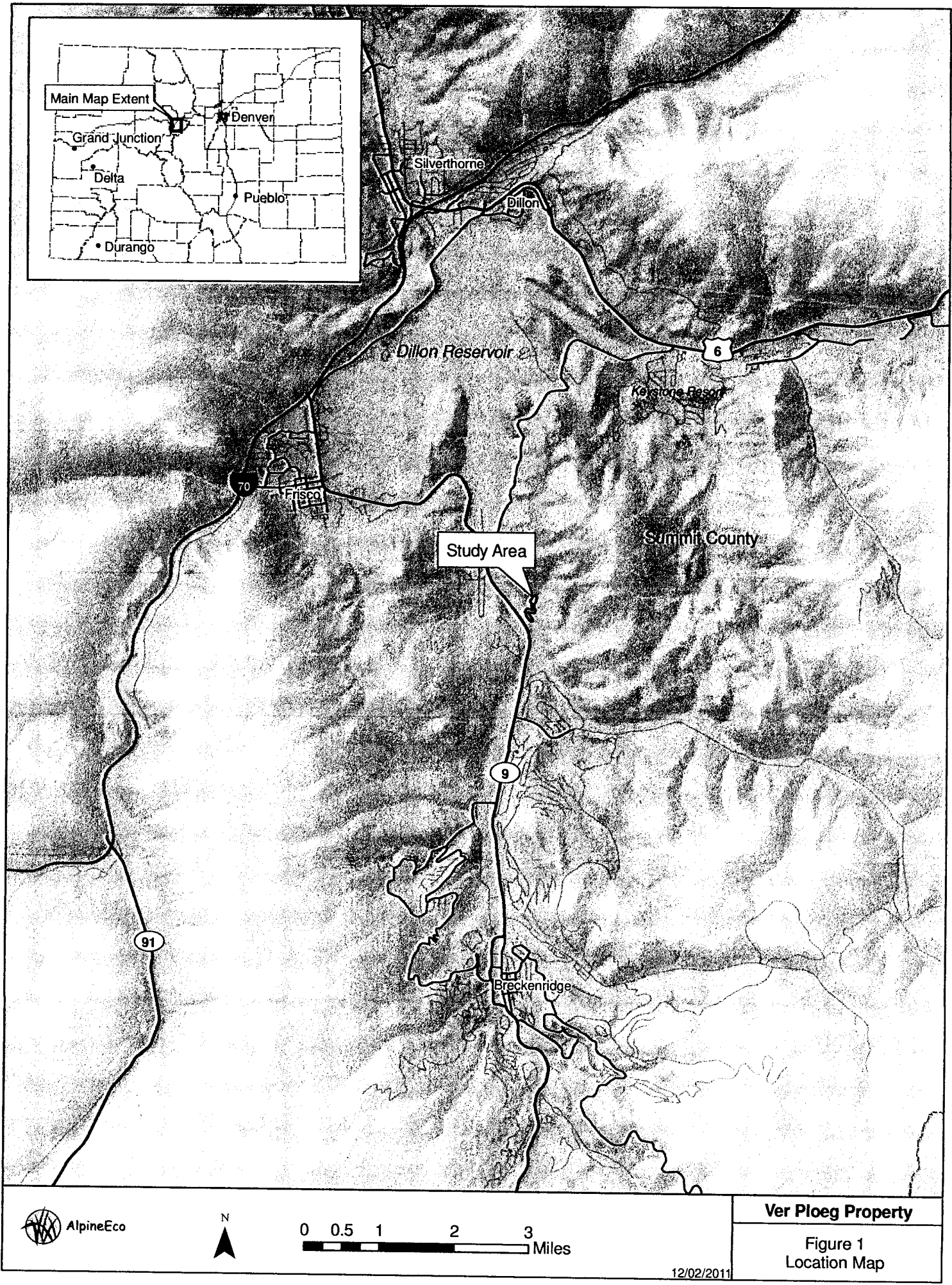
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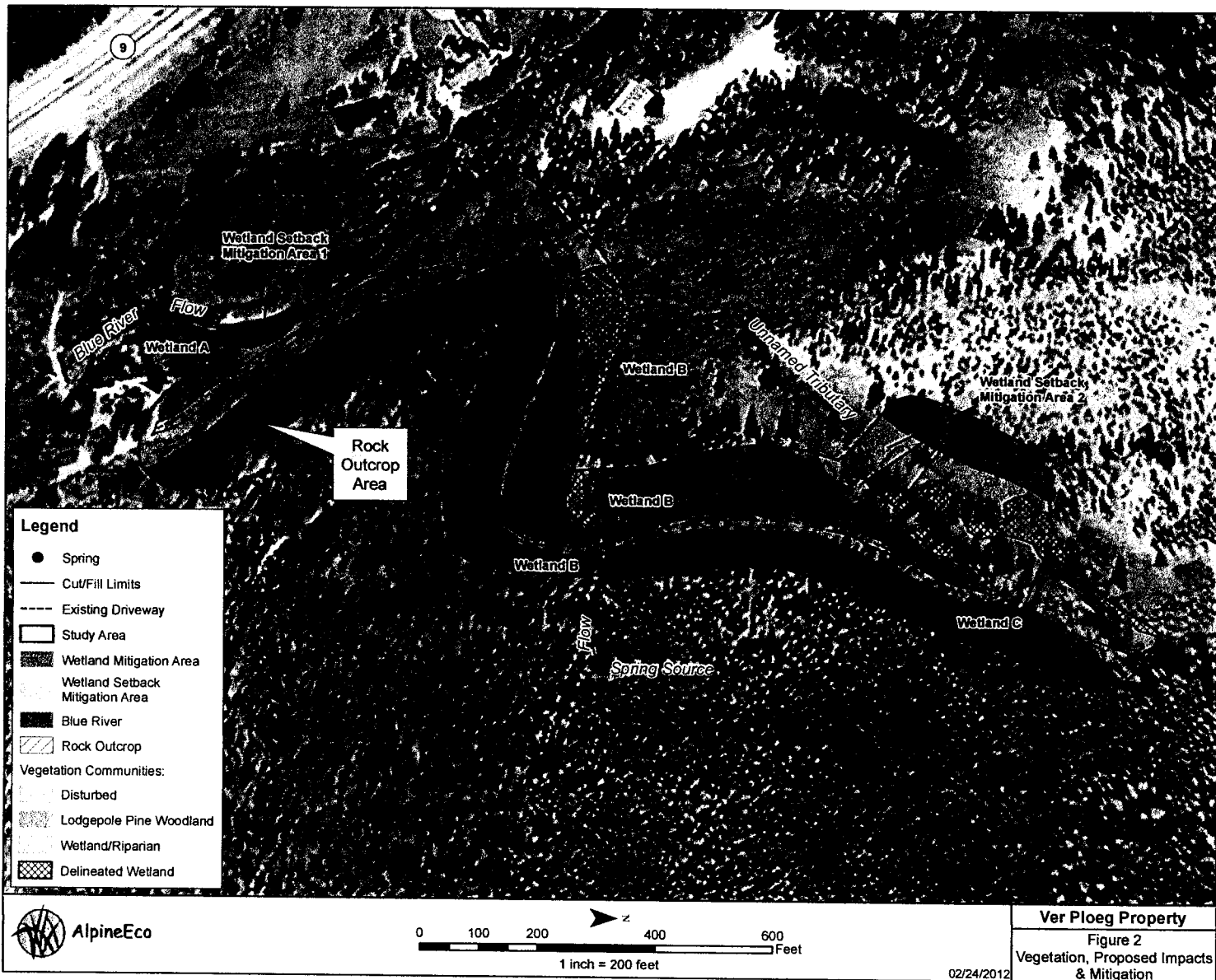
Western Native Seed. 2012. Subalpine Seed Mix from website: <http://www.westernnativeseed.com/subalpine.html>. Accessed February 15.



Ver Ploeg Property

Figure 1
Location Map

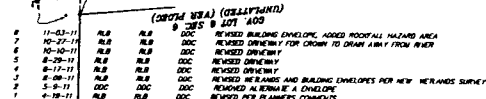
12/02/2011



Appendix A

Construction Drawings

OWNER
American War Phongs
100 S.E. Second Street, Suite 2150
Miami, Florida 33137



No.	Date	Designated	Drawn	Approved	Revision	Description
Designated: R.B.		Drawn: R.B.		Checked	Approved	Date: 03-08-11 Drawn: 1907-01

R=A=N=G=E W=E=S=T
Consulting Engineers - Land Surveyors - Construction Managers ^{INC.}
P.O. Box 589 Silverthorne, CO 80498 Phone 970 468-6281 Denver Direct 623-0426

DRAINING INDEX

C1	Cover sheet
C2	Drainage Str 0+00 to 8+00
C3	Drainage Str 8+00 to 17+00
C4	Drainage Str 17+00 to 21+00

WHITE RIVER

NATIONAL FOREST

S. 40

E. 40

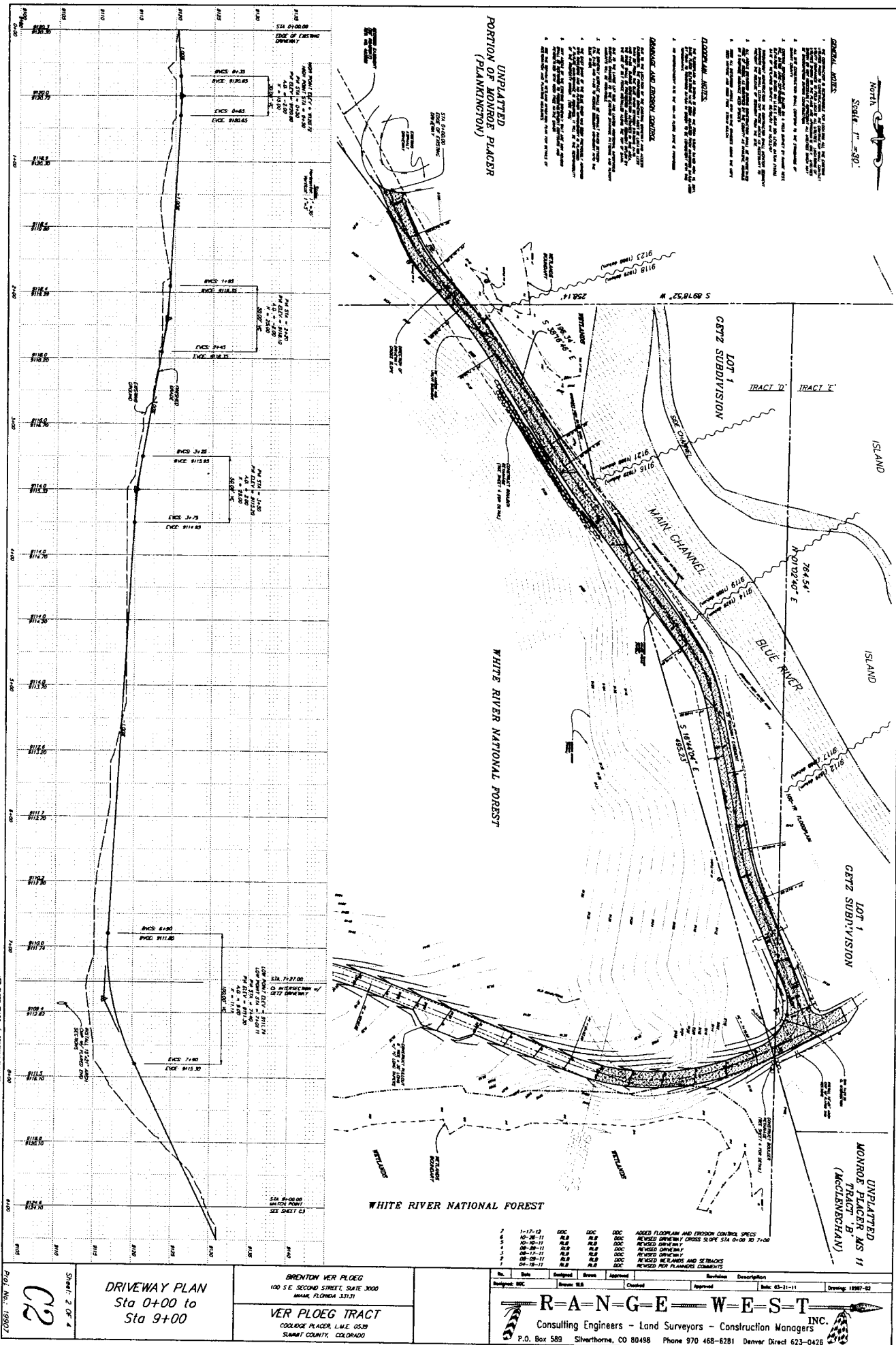
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NATIONAL FOREST**

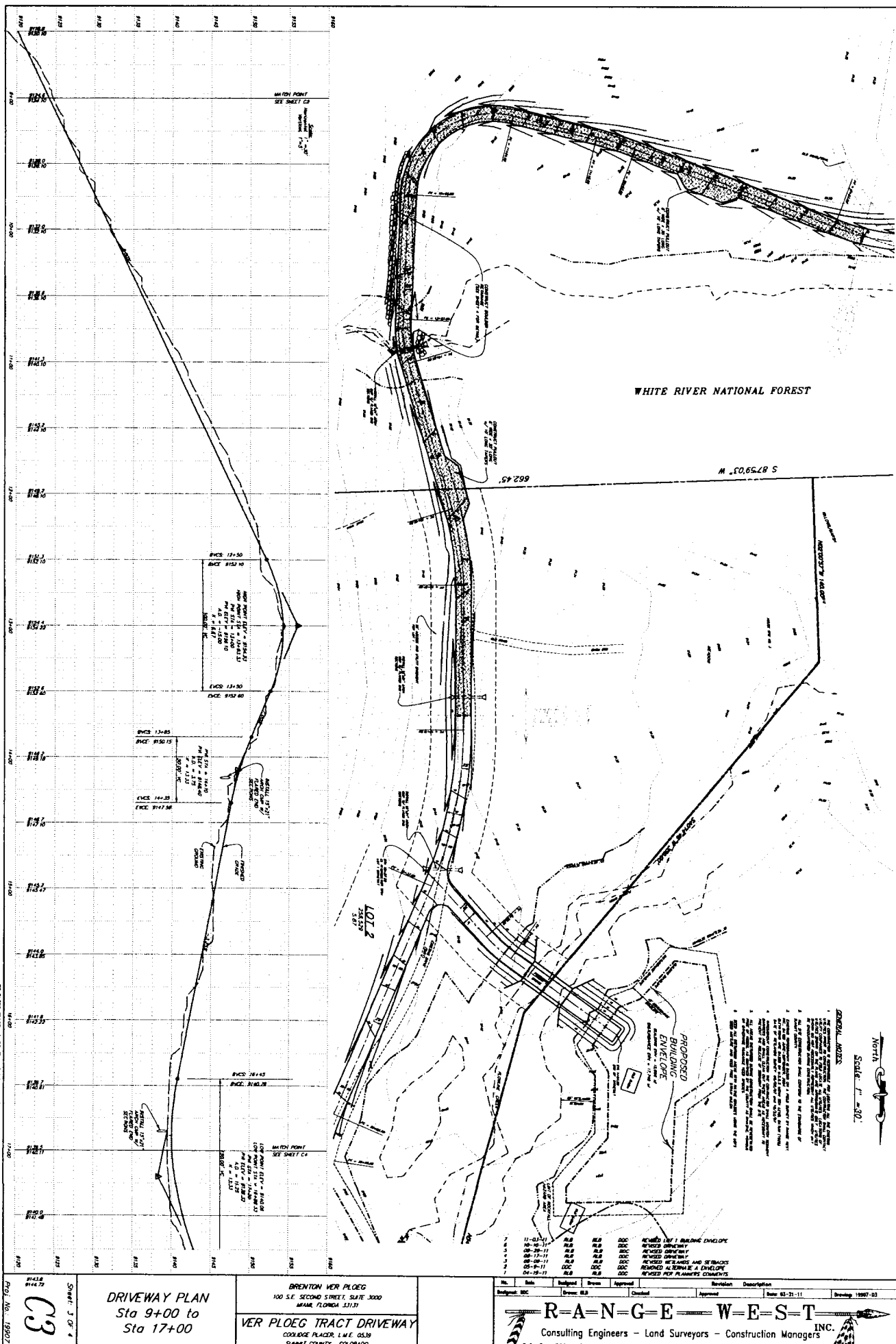
COVER
SHEET

BRENTON VER PLOEG
100 S.E. SECOND STREET, SUITE 3000
MIAMI, FLORIDA 33131

VER PLOEG TRACT DRIVEWAY
COOLIDGE PLACER, L.M.E. 05.39
SUMMIT COUNTY, COLORADO

PROJ. NO.: 19907
KEN WILCOX TRACT / OHENEWAY PLAIN / COVER SHEET / TAB 9 / PROJECT HAS 19907 / DRAWING: 19907-01 / SAT 11-02-11 / SNAW C





3

DRIVEWAY PLAN
Sta 9+00 to
Sta 17+00

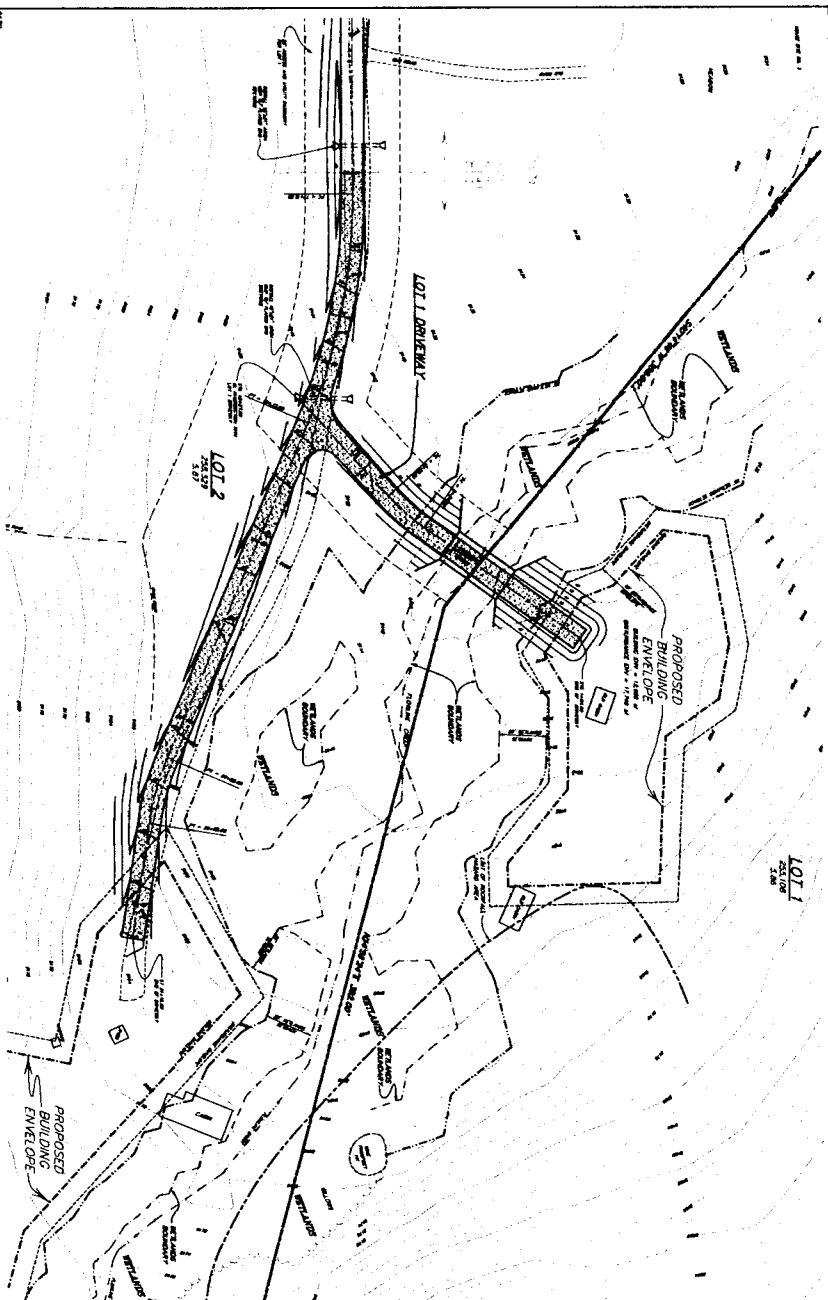
BRENTON VER PLOEG
100 S.E. SECOND STREET, SUITE 3000
MIAMI, FLORIDA 33131

VER PLOEG TRACT DRIVEWAY
COLLIDGE PLACE, L.M.E. 05.39
SARAT COUNTY, COLORADO

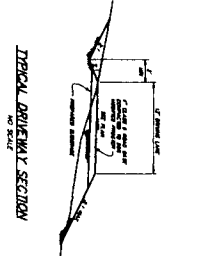
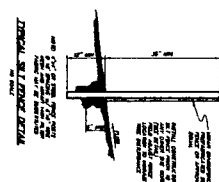
No.	Date	Budget	Draw	Approval	Revision	Description
Budget: 000	Draw: 0.0					Date: 03-25-11 Drawing: 1987-03

R=A=N=G=E=W=E=S=T INC.

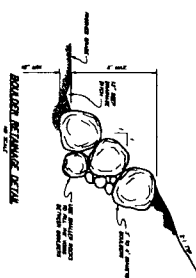
Consulting Engineers - Land Surveyors - Construction Managers



1. Are there any other organizations or individuals who are involved in the planning or execution of the event?
2. Are there any other individuals who are involved in the planning or execution of the event?
3. Are there any other individuals who are involved in the planning or execution of the event?
4. Are there any other individuals who are involved in the planning or execution of the event?
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9. Are there any other individuals who are involved in the planning or execution of the event?
10. Are there any other individuals who are involved in the planning or execution of the event?



North
Scale: 1" = 30'



6	11-03-11	RLB	RLB	DOC	REVISED LOT 1 BUILDING ENVELOPE				
5	10-10-11	RLB	RLB	DOC	REVISED DRAINWAY				
3	08-08-11	RLB	RLB	DOC	REVISED DRAINWAY				
2	08-17-11	RLB	RLB	DOC	REVISED WE DAMS AND ST BRACKS				
1	05-08-11	DOC	DOC	DOC	REMOVED ALTERNATE A ENVELOPE				
1	04-19-11	RLB	RLB	DOC	REMOVED PER PLANNERS COMMENTS				
No.	Date	Designed	Drawn	Approved	Revision	Description			
Revised: DOC	Drawn: RLB								
							Date: 05-11-11		Revised: 10087-04

R=A=N=G=E=W=E=S=T
INC.
Consulting Engineers - Land Surveyors - Construction Managers
P.O. Box 589 Silverthorne, CO 80498 Phone 970 468-6281 Denver Direct 623-0426

Appendix B
Section 404 Nationwide Permit
Authorization Request Submittal



December 15, 2011

Ms. Sue Nall
U.S. Army Corps of Engineers
400 Rood Avenue, Room 142
Grand Junction, CO 81501-2563

Subject: Request for Authorization of Nationwide Permit No. 14 for the Ver Ploeg Property in Summit County, Colorado

Dear Ms. Nall:

I am requesting authorization of Nationwide Permit (NWP) No. 14 for the Ver Ploeg Property near the town of Frisco in Summit County, Colorado (**Figure 1**). The project involves improving an existing driveway per Summit County (County) standards. The improved driveway will result in approximately 60 square feet (sf) of wetland impacts associated with widening the driveway and lengthening an existing culvert.

Most of the driveway is on private land, but the portion requiring the NWP is on US Forest Service (USFS) land. The USFS is aware of the project and our project team, led by Ms. Christie Mathews-Leidal, has been coordinating with Mr. Paul Semmer in the Dillon Ranger District and the County for the last year to prepare an Environmental Assessment and the other required documentation. Additional information on the EA and County coordination can be obtained from Ms. Mathews-Leidal. Her phone number is 970-453-4664 and her email address is christie@mathewsleidal.com.

The following text and attachments should provide the necessary information to authorize the permit.

Applicant

Mr. Brenton Ver Ploeg
1980 Tigertail Avenue
Coconut Grove, FL 33133
305-577-3996
BVerPloeg@vpl-law.com

Project Location

The 11-acre study area is located at 15200 Highway 9, which is between Frisco and Breckenridge, in Summit County, Colorado. It is situated just east of the Blue River (**Figure 2**) and can be found on the Frisco, Colorado US Geological Survey 7.5-minute quadrangle. It is located in Township 6 South, Range 77 West, and Section 6, and has the following coordinates:

- Universal Transverse Mercator (UTM):
 - South end: 13 410638E, 4378419N
 - North end: 13 410763E, 4378926N
- Latitude/Longitude:
 - South end: 39.550806° N, -106.040089° W

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- North end: 39.555386° N, -106.038704° W

Project Description

The project involves improving approximately 2,100 linear feet of an existing driveway to County standards as part of the development of two building sites/envelopes on the property. The new driveway will have a 12-foot wide driving surface with 4 inches of Class 6 roadbase. Boulder retaining walls will be installed in some areas with steep side slopes. The project will only result in impacts to one small wetland, approximately 200 feet below a spring. Although a portion of the improved driveway is on the Blue River floodplain and there is one crossing of an unnamed tributary (new bridge), these waterways and their wetlands will not be impacted by the project.

Methods

I walked the entire study area on July 26 and 29, 2011 to identify wetlands and other waters of the US. Wetlands were delineated within the defined study area using procedures outlined in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountain, Valleys, and Coast Region* (Corps 2010). This involved a detailed examination of plants, soils, and hydrologic indicators. All plant nomenclature in this letter and its attachments follows the Plants Database website (NRCS 2011a).

General Site Description

The study area is located at approximately 9,100 feet above mean sea level in the Sedimentary Subalpine Forests of the Southern Rockies Ecoregion (EPA 2011). The site is also in the Southern Rocky Mountains Major Land Resource Area (MLRA) of the Rocky Mountain Range and Forest Land Resource Region (LRR) (NRCS 2006). The eight digit hydrologic unit code (HUC) is 14010002 (Blue). This area is generally characterized by low density residential development in mostly forested areas.

The study area is very diverse ecologically and includes some White River National Forest lands. The lower portion (southwestern edge) of the study area is on the Blue River floodplain; the middle portion is situated within a lodgepole pine (*Pinus contorta*) forest, which is contiguous with a very large forest area to the east; and the upper portion (northeastern edge) is along an unnamed tributary to the Blue River (**Figure 2**). There is a very large wetland complex associated with the unnamed tributary and its tributaries (including at least one spring) that appears to contain several areas of peatland (fen). The spring originates outside of the study area and the peatland areas are on the very perimeter of the study area near the middle and northeastern edges (outside any areas of impact).

Wetland Description

Approximately 1.09 acres of wetlands were delineated in the 11-acre study area. These wetlands are associated with the Blue River or part of the large wetland complex associated with the unnamed tributary and its tributaries, including the spring (**Figure 2**). The wetlands are classified according to Cowardin, et al. (1979) as either palustrine scrub/shrub (PSS) or palustrine emergent (PEM). They are classified according to the Hydrogeomorphic (HGM) classification as either riverine or slope (Brinson 1993). All of the wetlands are expected to be jurisdictional under Section 404 of the Clean Water Act since they are “directly abutting” the Blue River or its tributary, both of which are at least “relatively permanent” waters (Corps 2007; 2008). **Table 1** lists each of the wetlands delineated in the study area.

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**Table 1: Waters of the US in the Study Area**

Water of the US	Description	Cowardin Classification	HGM Classification	Expected to be Jurisdictional?	Area (acres)
Wetlands					
Wetland A	Wetlands associated with the Blue River	PSS	Riverine	Yes	0.04
Wetland B	Wetlands associated with the spring and groundwater discharge areas downgradient	PEM	Slope	Yes	0.47
Wetland C	Wetlands associated with the unnamed tributary and its floodplain	PSS	Riverine	Yes	0.58
				Total	1.09
Other Waters of the US					
Blue River	Channel only	--	--	Yes	0.09
				Total	0.09

A summary of the wetlands follows and more information can be found on the *Wetland Determination Data Forms* in **Attachment A**. Photographs of the site are in **Attachment B** and a list of plants observed in and near the wetlands (with wetland indicator statuses) is provided in **Attachment C**. The *Preconstruction Notification Form* is in **Attachment D**.

Blue River Wetlands (Wetland A)

The 0.04 acre of wetlands along the Blue River are mostly situated in a topographic low area that appears to be an old meander scar. This meander scar is connected to the Blue River channel and the associated fringe wetlands (**Photo 1**). The wetlands are classified as PSS and are dominated by resin birch (*Betula glandulosa*) and woolly sedge (*Carex pellita*), with field horsetail (*Equisetum arvense*). Most areas have a partial overstory of lodgepole pine and Engelmann spruce (*Picea engelmanni*). The portions of the wetland immediately adjacent to the Blue River channel (fringe areas) contain woolly sedge with an overstory of resin birch, park willow (*Salix monticola*), and Drummond's willow (*Salix drummondiana*). The wetland boundary in most areas is generally characterized by a shift from willow and resin birch with a relatively dense woolly sedge understory, to lodgepole pine with very little to no understory.

Some adjacent non-wetland areas on the floodplain contain dead and dying willow with a mixed understory of hydrophytes and non-hydrophytes (see data sheets for SP-1 and SP-3 in **Attachment A**). These areas appear to be relic wetlands and typically include small pockets of woolly sedge and/or water sedge (*Carex aquatilis*), mixed with common juniper (*Juniperus communis*), fireweed (*Chamerion angustifolia*), American vetch (*Vicia americana*), meadow thistle (*Cirsium scariosum*), and Engelmann spruce (**Photos 2—4**).

The water for the wetlands associated with the Blue River is provided by the river itself through overbank flooding, backwater flooding, high alluvial groundwater, and capillary action. Wetland A is within 1 foot (vertical) of the ordinary high water mark for the river and was both inundated and

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saturated to the surface during the field visit. Wetland hydrology indicators observed include inundation (A1), high water table (A2), and saturation (A3).

According to the Web Soil Survey (NRCS 2011b), the soils in the study area have not been mapped. Soil pits excavated in and near wetlands generally revealed silty and sandy clay loams interbedded with loamy sand, gravel, and cobble. These soils are typical of floodplain (alluvial) settings. No hydric soil indicators were recorded in the wetlands due to the high content of cobble in the profile.

The primary functions provided by these wetlands are general wildlife habitat and surface water storage. These functions are based on assessment methods presented in Berglund and McEldowney (2008) and are a result of the wetlands generally being in a floodplain depression with a partially restricted outlet, and having a relatively dense and diverse vegetation community that is connected to other similar habitats (*i.e.* Blue River corridor).

Spring and Unnamed Tributary Wetland Complex (Wetlands B and C)

The wetlands associated with the spring (part of Wetland B) and the unnamed tributary (Wetland C) are part of a large wetland complex. This complex contains a PSS wetland fringe along the tributary, with a mix of PEM and PSS wetlands on its floodplain and in adjacent areas where groundwater is discharging. This includes the “channel” of a spring that discharges approximately 200 feet up-gradient of the current driveway (**Figure 2**).

The wetlands along the unnamed tributary are mostly PSS (**Photos 5 and 6**) and dominated by park willow, Drummond’s willow, and Wolf’s willow (*Salix wolfii*), with some diamondleaf willow (*Salix planifolia*). The most common understory plants and plants in small openings include water sedge, beaked sedge (*Carex utriculata*), bluejoint (*Calamagrostis canadensis*), and arrowleaf ragwort (*Senecio triangularis*). The PEM/PSS mix of wetlands on and adjacent to the unnamed tributary floodplain (greater wetland complex) are mostly dominated by water sedge and beaked sedge (**Photo 7**), and likely contain peatlands in some areas outside of the study area.

The wetland “channel” below the spring is classified as PEM and is very narrow (**Photo 8**). It is dominated by mostly field horsetail and pimpernel willowherb (*Epilobium anagallidifolium*), with pockets of arrowleaf ragwort and heartleaf bittercress (*Cardamine cordifolia*). Most areas have an understory of lodgepole pine and Engelmann spruce.

All of these wetlands are generally well-defined as a result of relatively abrupt changes in topography. The boundary of Wetland B is very distinct and transitions directly into lodgepole pine forest with little to no understory. The boundary of Wetland C is usually characterized by a transition from willow (*Salix* spp.) with an understory of hydrophytes, to twinberry honeysuckle (*Lonicera involucrata*) with a diverse mix of grasses and forbs, including Porter brome (*Bromus porteri*), Thurber’s fescue (*Festuca thurberi*), nodding ragwort (*Senecio bigelovii*), fireweed, Virginia strawberry (*Fragaria virginiana*), kinnikinnick (*Arctostaphylos uva-ursi*), and common dandelion (*Taraxacum officinale*). Some areas transition less abruptly into mesic meadow (**Photo 9**). These meadow areas are dominated by Thurber’s fescue, Wheeler’s bluegrass (*Poa wheeleri*), Kentucky bluegrass (*Poa pratensis*), and common yarrow (*Achillea millefolium*), with a diverse mix of other grasses and forbs.



The water for the wetlands associated with the unnamed tributary is provided by high alluvial groundwater and overbank flooding. The other wetland areas are sustained by groundwater discharge, including flows originating from the spring. Wetland hydrology indicators observed in these wetlands include inundation (A1), high water table (A2), saturation (A3), and hydrogen sulfide odor (C1).

According to the Web Soil Survey (NRCS 2011b), the soils in the study area have not been mapped. Soil pits excavated in and near Wetlands B and C generally revealed silty and sandy clay loams interbedded with sand. Informal investigations just outside the study area indicated the presence of organic soils in some wetland locations. Hydric soil indicators observed include hydrogen sulfide (A4).

The primary functions provided by these wetlands are general wildlife habitat, surface water storage, and groundwater discharge. These functions are based on assessment methods presented in Berglund and McEldowney (2008) and are a result of the wetlands generally being situated on the floodplain, having a relatively dense and diverse vegetation communities that are connected to other similar habitats (*i.e.* Blue River corridor), and having groundwater as a primary source of wetland hydrology.

Other Waters of the US

The Blue River is the only other water of the US in the study area. There are two other waterways present, including the unnamed tributary and the spring, but no separate channels were delineated for these features. These channels were included within Wetlands B and C.

The Blue River flows north through the very western edge of the study area. It is generally 30 to 50 feet wide with a gravel, cobble, and boulder channel bottom. There are some wetlands along the edge of the channel in the study area (Wetland A), but much of the banks are lacking wetlands because they are very rocky and previously disturbed (**Photo 10**). The study area contains approximately 0.09 acre of the channel (**Table 1**).

Project Impacts

Impacts to waters of the US have been avoided and minimized to the maximum extent practicable by:

- Maximizing the use of previously disturbed land by keeping the original driveway alignment
- Keeping the width of the improved driveway to the minimum required by the County
- Making the driveway improvements on the Blue River floodplain on the uphill-side (wherever possible) to avoid impacts to the river and its wetlands
- Using retaining walls in some areas to further minimize the roadway footprint
- Designing a bridge long enough to avoid impacting the unnamed tributary and its wetlands
- Configuring the building envelopes to avoid impacts to wetlands

Unavoidable impacts include the permanent loss of 60 sf of wetlands. These losses are associated with the placement of 3 cubic yards (cy) of rock and soil for the widening of the driveway at Wetland B, approximately 200 feet below the spring. This work includes the replacement of an existing 12

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inch diameter, 20-foot long corrugated metal pipe (CMP) and the installation of a small boulder retaining wall on the downstream end. The new culvert will be a 15-inch by 21-inch arch CMP 26 feet long with flared end sections. The impact area is shown on the construction plan set in **Attachment E** and summarized in **Table 2**.

Table 2: Impacts to Waters of the US

Water of the US	Area Permanently Filled (sf)	Quantity of Dredging (cy)	Quantity and Type of Fill		
			Soil (cy)	Rock (cy)	Total Fill (cy)
Wetland A	0	0	0	0	0
Wetland B	60	0	2	1	3
Wetland C	0	0	0	0	0
Blue River	0	0	0	0	0
Total	60	0	2	1	3

Threatened and Endangered Species (TES)

No suitable TES habitat is present in the study area. Thus, none are expected to be adversely impacted as a result of the project.

Cultural Resources

A literature search and pedestrian survey was conducted for the driveway and adjacent areas. No cultural resources were identified. Thus, none are expected to be adversely impacted as a result of the project. A copy of the report is in **Attachment F**.

Schedule

The preferred project schedule would be to begin construction in summer 2012 or soon thereafter upon receiving USFS and County approvals.

Wetland Mitigation

In order to compensate for the 60 sf of wetlands permanently lost as a result of the project, the wetlands and riparian habitat along the Blue River will be enhanced by planting 65 native shrubs. The plantings will be placed in areas immediately west of the improved driveway, along the east bank of the river (**Figure 3**). These areas have been previously impacted by other activities and are lacking the species diversity found elsewhere on the floodplain. The plants to be installed in the mitigation area are listed in **Table 3**.

**Table 3: Shrubs to be Planted for Compensatory Mitigation**

Common Name	Scientific Name	Quantity	General Planting Location
Resin birch	<i>Betula glandulosa</i>	5	Edge of channel or where soil is saturated for most of the year
Shrubby cinquefoil	<i>Dasiphora fruticosa</i>	10	Edge of wetland or in other areas seasonally saturated
Prickly currant	<i>Ribes lacustre</i>	5	Edge of wetland or in other areas seasonally saturated
Twinberry honeysuckle	<i>Lonicera involucrata</i>	5	Edge of wetland or in other areas seasonally saturated
Park willow	<i>Salix monticola</i>	20	Edge of channel or where soil is saturated for most of the year
Drummond's willow	<i>Salix drummondiana</i>	20	Edge of channel or where soil is saturated for most of the year
	Total	65	

All shrubs will be 1-gallon (or similar) containerized plants and will be planted on approximately 6-foot centers (1,393 per acre) in and near wetland areas, as directed by a qualified ecologist. Willows cuttings are not recommended because installation would be very difficult in the rocky soils.

Photographs of the planting areas will be taken before, during, and after planting for submittal to the Corps, and all plantings will be supervised by a qualified ecologist.

Other Mitigation Measures

In addition to compensatory mitigation, the following mitigation measures will be employed during construction to minimize adverse impacts to waters of the US:

- Unnecessary impacts will be avoided during construction by placing silt fence, erosion logs, or other fencing at the limits of permanent wetland impact and along the perimeter of any other wetlands within 25 feet.
- There will be no vehicle access in wetland areas outside the limits of permanent impacts.
- Best Management Practices (BMPs) will be used during all phases of construction to reduce impacts from sedimentation and erosion, including the use of berms, brush barriers, check dams, erosion control blankets, erosion logs, filter strips, sandbag barriers, sediment basins, silt fences, straw-bale barriers, surface roughening, and/or diversion channels.
- Equipment will be refueled in designated contained areas, a minimum of 50 feet from wetlands and other water features.

Conclusion

I am requesting authorization of NWP No. 14 for the permanent loss of 60 sf of waters of the US as the result of the placement of 3 cy of fill material for an improved driveway. No TES or cultural resources are expected to be impacted as a result of the project. The proposed compensatory



wetland mitigation includes the enhancement of existing wetland and riparian habitat along the Blue River by planting 65 shrubs in an area previously disturbed.

If you need additional information or have questions, please contact me at 303.859.1475 or andyherb@alpine-eco.com.

Sincerely,

Andy Herb
Ecologist/Owner

CC: Ms. Christie Mathews-Leidal

Attachments:

- Attachment A—Wetland Determination Forms
- Attachment B—Site Photographs
- Attachment C—List of Plants Species Observed
- Attachment D—Nationwide Permit PCN Checklist
- Attachment E—Construction Plans
- Attachment F—Cultural Resources Report

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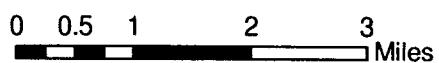
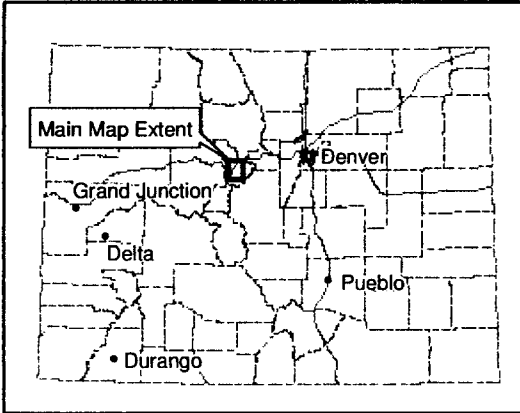
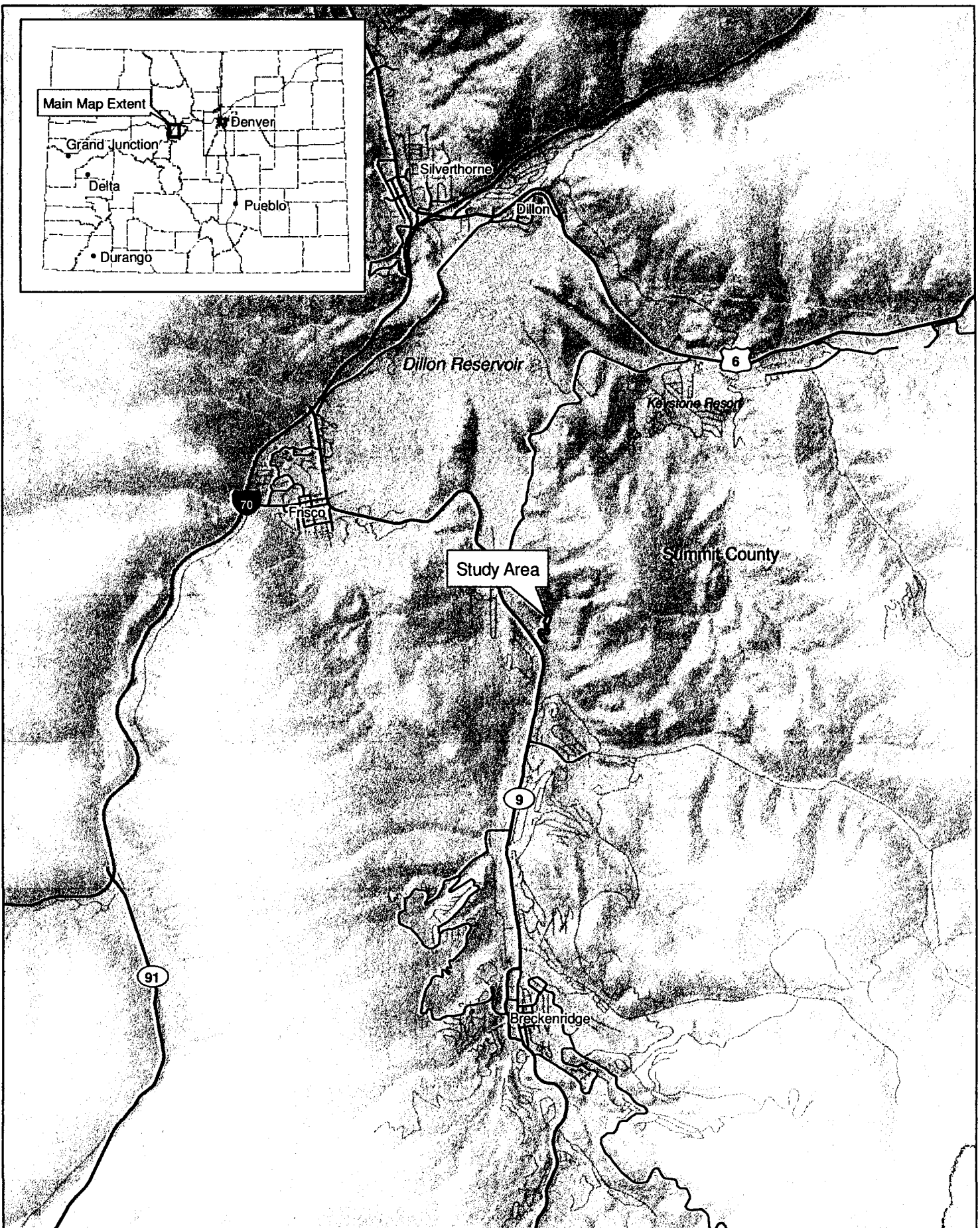


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Ver Ploeg Property

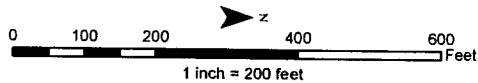
Figure 1
Location Map

12/02/2011



Legend

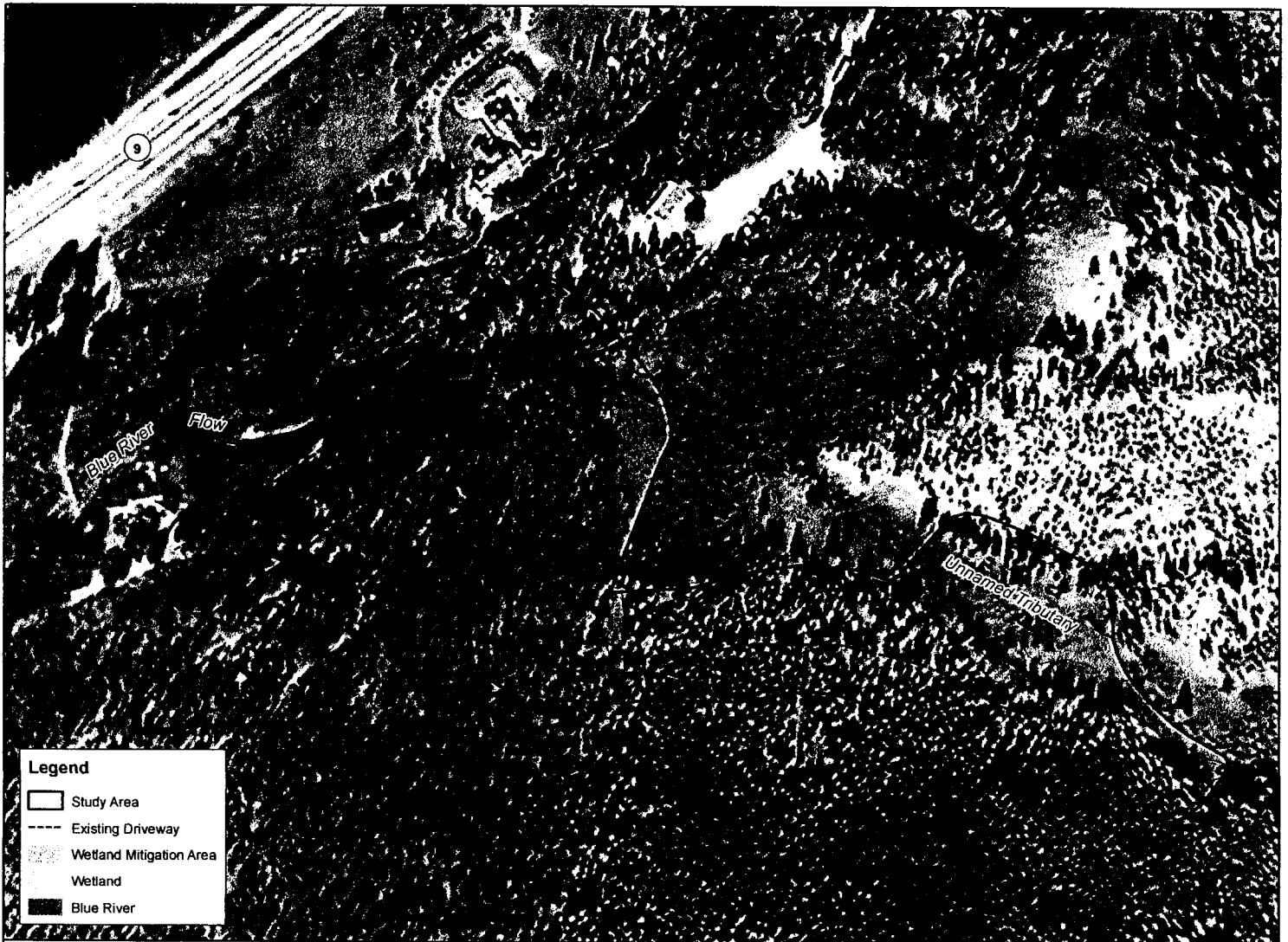
- ▶ Photo Point
- Spring
- Sample Point
- ▭ Study Area
- Existing Driveway
- ▨ Wetland
- ▩ Blue River



Ver Ploeg Property

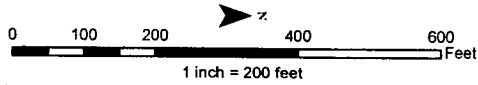
Figure 2
Study Area

01/11/2011



Legend

- Study Area
- Existing Driveway
- Wetland Mitigation Area
- Wetland
- Blue River



Ver Ploeg Property

Figure 3
Wetland Mitigation Areas

12/07/2011

Attachment A
Wetland Determination Forms

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: Ver Ploeg Property City/County: Frisco/Summit Sampling Date: 7/26/11
 Applicant/Owner: Ver Ploeg State: CO Sampling Point: SP-1
 Investigator(s): Andy Harb Section, Township, Range: Sec 6, T6S, R77W
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): concave Slope (%): <1
 Subregion (LRR): Rky Mtn Range+Forest Lat: 39.550852 Long: -106.040060 Datum: NAD 83
 Soil Map Unit Name: Not mapped NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ☒
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks: <u>Appears to be relic floodplain wetland; may have once been an extension of a secondary channel or oxbow (part of nearby wetland A). No hydric soils or hydrology. Area previously disturbed - piles of fill, etc.</u>	

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: <u>1x3 m</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Pinus contorta</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>5</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>80</u> (AB)
4. _____	_____	_____	_____	
<u>15</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>1x3 m</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:
1. <u>Salix monticola</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	Total % Cover of: _____ Multiply by: _____
2. <u>Salix drummondiana</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	OBL species _____ x 1 = _____
3. <u>Pinus contorta</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	FACW species _____ x 2 = _____
4. _____	_____	_____	_____	FAC species _____ x 3 = _____
5. _____	_____	_____	_____	FACU species _____ x 4 = _____
<u>50</u> = Total Cover 25/10				UPL species _____ x 5 = _____
				Column Totals: _____ (A) _____ (B)
				Prevalence Index = B/A = _____
Herb Stratum (Plot size: <u>1x3 m</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:
1. <u>Calamagrostis canadensis</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	_____ Dominance Test is >50%
2. <u>Poa trivialis</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	_____ Prevalence Index is ≤3.0
3. <u>Achillea millefolium</u>	<u>2</u>	<u>N</u>	<u>FACW</u>	_____ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
4. <u>Taraxacum officinale</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	_____ Wetland Non-Vascular Plants ¹
5. <u>Fragaria virginiana</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	_____ Problematic Hydrophytic Vegetation ¹ (Explain)
6. <u>Chamerion angustifolium</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	_____ ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>45</u> = Total Cover 22/9				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>~40</u>				
Remarks: <u>Willow overstory w/mixed understory; relic floodplain wetland area; lots of dead willow</u>				

Sampling Point: SP-1

HYDROLOGY

US Army Corps of Engineers

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: Ver Ploeg Property City/County: Frisco/Summit Sampling Date: 7/26/11
 Applicant/Owner: Ver Ploeg State: CO Sampling Point: SP-2
 Investigator(s): Andy Harb Section, Township, Range: Sec 6, T6S, R77W
 Landform (hilllope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): <1
 Subregion (LRR): Rky Mtn Range + Forest Lat: 39.551046 Long: -106.042362 Datum: NAD 83
 Soil Map Unit Name: Not mapped NWI classification: PSS

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Remarks: <u>Oxbow of Blue River. likely used to continue across existing driveway before it was constructed.</u>		

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: <u>1 x 3 m</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)
1. <u>Pinus contorta</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Picea engelmannii</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>60</u> (A/B)
4. _____				
<u>35</u> = Total Cover 19/7				
Sapling/Shrub Stratum (Plot size: <u>1 x 3 m</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____
1. <u>Betula glandulosa</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	
2. <u>Juniperus communis</u>	<u>5</u>	<u>Y</u>	<u>UPL</u>	FACW species _____ x 2 = _____
3. _____				FAC species _____ x 3 = _____
4. _____				FACW species _____ x 4 = _____
5. _____				UPL species _____ x 5 = _____
<u>25</u> = Total Cover 12/5				Column Totals: _____ (A) _____ (B)
Herb Stratum (Plot size: <u>1 x 3 m</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index = B/A = _____
1. <u>Carex pellita</u>	<u>60</u>	<u>Y</u>	<u>OBL</u>	
2. <u>Equisetum arvense</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators: _____ Dominance Test is >50% _____ Prevalence Index is <3.0' _____ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Wetland Non-Vascular Plants ¹ _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
3. <u>Juncus balticus</u>	<u>2</u>	<u>N</u>	<u>FACW</u>	
4. _____				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
<u>77</u> = Total Cover 39/15				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks: <u>Birch/sedge community under lodgepole pine which are rooted outside of WL area. Birch saplings obs. Some Salix nearby - scattered</u>				

Sampling Point: SP-2

HYDROLOGY

Western Mountains, Valleys, and Coast – Interim Version

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: Ver Plog Property City/County: Frisco/Summit Sampling Date: 7/26/11
 Applicant/Owner: Ver Plog State: CO Sampling Point: SP-3
 Investigator(s): Andy Herb Section, Township, Range: Sec 6, T6S, R77W
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): CONCAVE Slope (%): <1
 Subregion (LRR): Rky Mtn Range + Forest Lat: 39.552148 Long: -106.040967 Datum: NAD 83
 Soil Map Unit Name: Not mapped NWI classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ☒
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks: <u>Relic patch of sedge from when floodplain may have been wetter; now there is no hydrology or hydric soils. Lots of dead willow.</u>	

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
= Total Cover				
Sapling/Shrub Stratum (Plot size: _____)	_____	_____	_____	Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
= Total Cover				
Herb Stratum (Plot size: <u>1 x 3 m</u>)	_____	_____	_____	
1. <u>Carex aquatilis</u>	<u>80</u>	<u>Y</u>	<u>OBL</u>	
2. <u>Chamerion angustifolia</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	
3. <u>Vicia americana</u>	<u>1</u>	<u>N</u>	<u>NI</u>	
4. _____	_____	_____	_____	
5. <u>Others mixed into sedge area but not in plot:</u>	_____	_____	_____	
6. <u>Juncus communis</u>	_____	_____	<u>UPL</u>	
7. <u>Cirsium scaraburum</u>	_____	_____	<u>NI</u>	
8. <u>Picea engelmannii</u>	_____	_____	<u>FACU</u>	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
82 = Total Cover				
Woody Vine Stratum (Plot size: _____)	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
= Total Cover				
% Bare Ground in Herb Stratum <u>~15</u>	_____	_____	_____	
Remarks: <u>Patch of sedge w/ lots of upland plants apparently invading. Dead willow surrounds sedge; relic wetland area?</u>				

Sampling Point: SP-3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-4	10YR 2/1	100	-	-	-	-	organics/roots	> damp
4-9	10YR 3/3	95	10YR 5/8	5	C	M	Sandy loam	
9-16	10YR 4/3	90	-	-	-	-	Sandy loam	
	10YR 4/2	10	-	-	-	-	Sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.
²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks: Damp from recent precipitation; no indicators

HYDROLOGY

Wetland Hydrology Indicators:		Wetland Hydrology Indicators:	Secondary Indicators (2 or more required)
<u>Primary Indicators (minimum of one required; check all that apply)</u>			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2,	
<input type="checkbox"/> High Water Table (A2)	1, 2, 4A, and 4B)	4A, and 4B)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)			
Field Observations:			
Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____		
Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____		
Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
(includes capillary fringe)			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: No indicators; saturated @ ~ 16"; no evidence of overbank flows. Carex persisting on snowmelt + other precip only - likely short-lived high GW but not long enough to create WL ^s .			

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: Ver Plog Property City/County: Frisco/Summit Sampling Date: 7/26/11
 Applicant/Owner: Ver Plog State: CO Sampling Point: SP-4
 Investigator(s): Andy Harb Section, Township, Range: Sec 6, T6S, R77W
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): ~1
 Subregion (LRR): Rky Mtn Range + Forest Lat: 39.553974 Long: -106.029821 Datum: NAD 83
 Soil Map Unit Name: Not mapped NWI classification: PSS

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Remarks: <u>Wetland on floodplain of unnamed trib; likely groundwater discharge area too</u>	

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>3</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
4. _____	_____	_____	_____	
= Total Cover				
Shrub/Strat (Plot size: <u>1 x 3 m</u>)				Prevalence Index worksheet:
1. <u>Salix wolfii</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	Total % Cover of: _____ Multiply by: _____
2. <u>Salix planifolia</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>	OBL species _____ x 1 = _____
3. <u>Salix drummondiana</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	FACW species _____ x 2 = _____
4. <u>Lonicera involucrata</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	FAC species _____ x 3 = _____
5. _____	_____	_____	_____	FACU species _____ x 4 = _____
= Total Cover <u>50</u>				UPL species _____ x 5 = _____
Herb Stratum (Plot size: <u>1 x 3 m</u>)				Column Totals: _____ (A) _____ (B)
1. <u>Carex utriculata</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>	Prevalence Index = B/A = _____
2. <u>Senecio triangularis</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	Hydrophytic Vegetation Indicators:
3. <u>Carex aquatilis</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	___ Dominance Test is >50%
4. <u>Polygonum viviparum</u>	<u>2</u>	<u>N</u>	<u>FAC</u>	___ Prevalence Index is <3.0'
5. <u>Mertensia ciliata</u>	<u>1</u>	<u>N</u>	<u>OBL</u>	___ Morphological Adaptations' (Provide supporting data in Remarks or on a separate sheet)
6. <u>Lythrum parviflora</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	___ Wetland Non-Vascular Plants'
7. <u>Phytolacca alpinum</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	___ Problematic Hydrophytic Vegetation' (Explain)
8. _____	_____	_____	_____	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
= Total Cover <u>90</u>				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
= Total Cover				
% Bare Ground in Herb Stratum <u>~10</u>				
Remarks: <u>Edge of streambank; dense/diverse wetland community</u>				

Sampling Point: SP-4

HYDROLOGY

Western Mountains, Valleys, and Coast – Interim Version

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: Ver Plog Property City/County: Frisco/Summit Sampling Date: 7/26/11
 Applicant/Owner: Ver Plog State: CO Sampling Point: SP-5
 Investigator(s): Andy Harb Section, Township, Range: Sec 6, T6S, R77W
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): CONCAVE Slope (%): 2-4
 Subregion (LRR): Rky Mtn Range + Forest Lat: 39.554263 Long: -106.039630 Datum: NAD 83
 Soil Map Unit Name: Not mapped NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ☒
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present?	Yes _____ No <input checked="" type="checkbox"/>	
Remarks: <u>Mesic meadow on floodplain of unnamed trib.</u>		

VEGETATION - Use scientific names of plants.

Trees Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>42</u> (A/B)
1. _____				
2. _____				
3. _____				
4. _____				
= Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>1 x 3 m</u>)				
1. <u>Discophora fruticosa</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	
2. _____				
3. _____				
= Total Cover				Hydrophytic Vegetation Indicators: _____ Dominance Test is >50% _____ Prevalence Index is ≤3.0 _____ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Wetland Non-Vascular Plants ² _____ Problematic Hydrophytic Vegetation ³ (Explain) _____ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot size: <u>1 x 3 m</u>)				
1. <u>Juncus bigelovii</u>	<u>20</u>	<u>Y</u>	<u>UPL</u>	
2. <u>Calamagrostis canadensis</u>	<u>15</u>	<u>Y</u>	<u>DBL</u>	
3. <u>Juncus bulbosus</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	
4. <u>Achillea millefolium</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	
5. <u>Poa pratensis</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	
6. <u>Fragaria virginiana</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	
7. <u>Pedicularis bracteosa</u>	<u>10</u>	<u>N</u>	<u>UPL</u>	
8. <u>Tamoxacem officinale</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
9. <u>Vicia americana</u>	<u>5</u>	<u>N</u>	<u>NI</u>	
10. <u>Aluminum pulcherrimum</u>	<u>2</u>	<u>N</u>	<u>UPL</u>	
11. <u>Cirsium scariosum</u>	<u>1</u>	<u>N</u>	<u>NI</u>	
= Total Cover <u>62/24</u>				
Woody Vine Stratum (Plot size: _____)				
1. _____				
2. _____				
= Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				
Remarks: <u>Very diverse mesic meadow w/cover >100% ; between two wetland areas but no wetland</u>				

Sampling Point: SP-5

HYDROLOGY

Western Mountains, Valleys, and Coast – Interim Version

Attachment B
Site Photographs

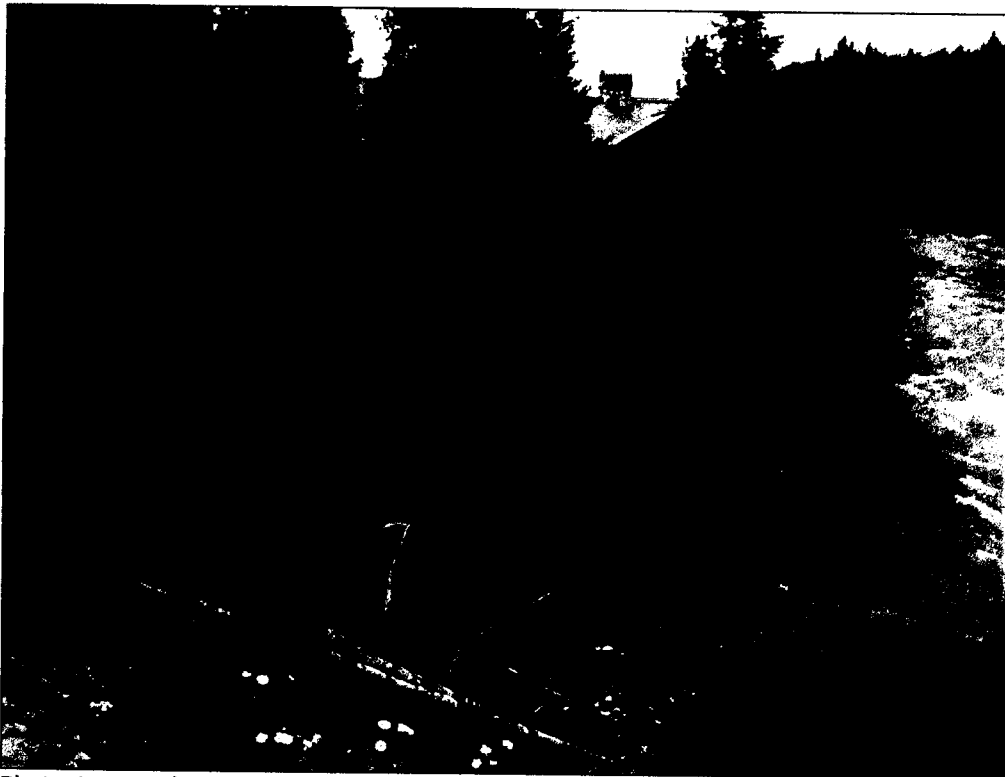


Photo 1 — Wetland A and adjacent fringe wetlands along Blue River, looking southeast

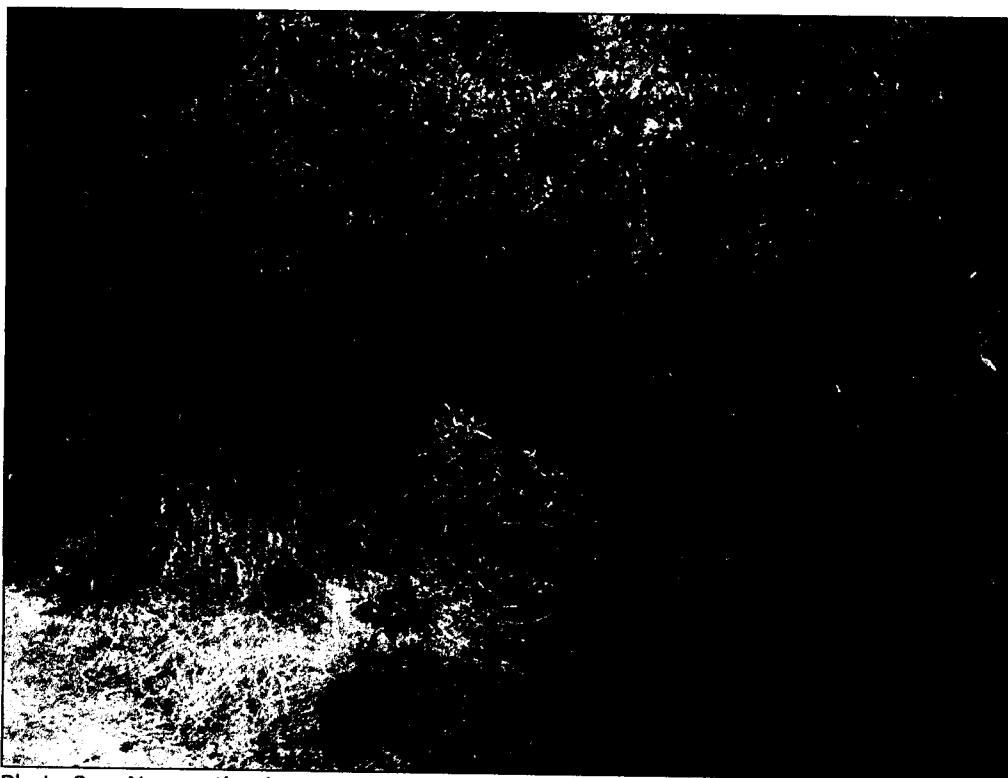


Photo 2 — Non-wetlands on Blue River floodplain at SP-1; notice dead and dying willow; looking east

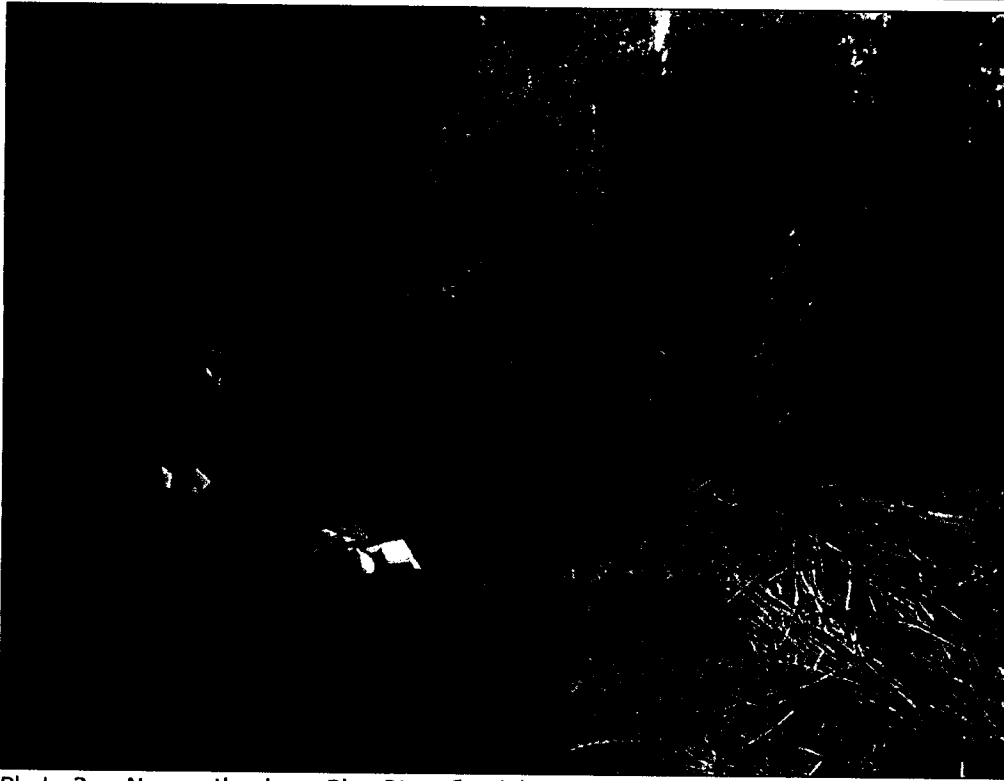


Photo 3 — Non-wetlands on Blue River floodplain at SP-3; notice dead and dying willow; looking southeast

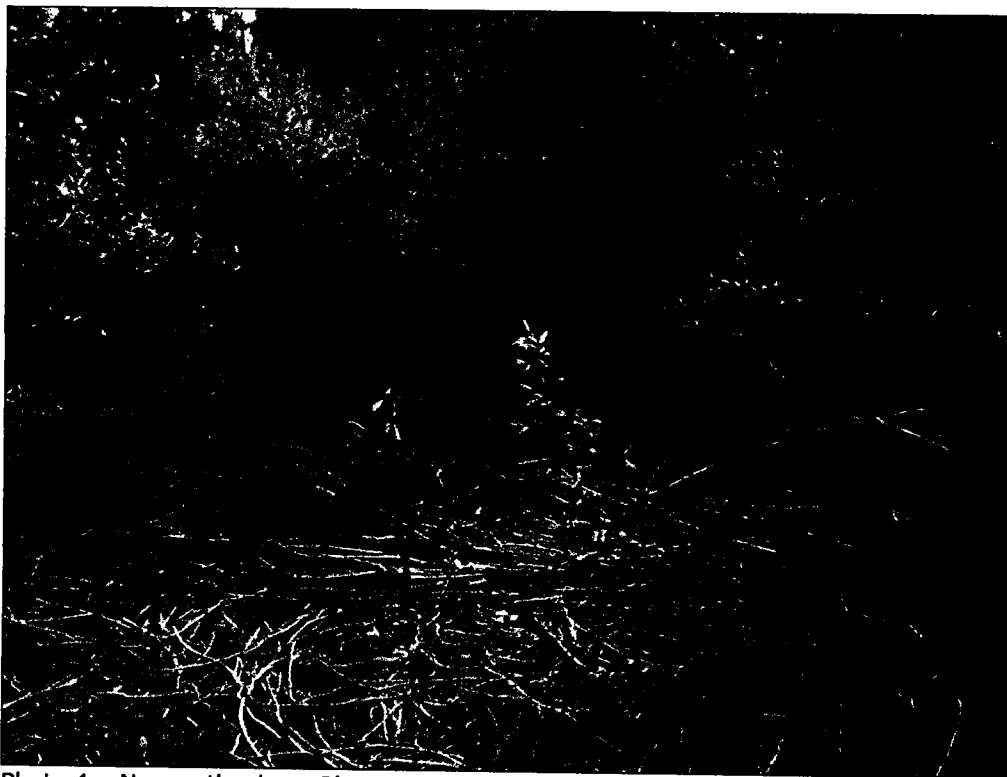


Photo 4 — Non-wetlands on Blue River floodplain near SP-3; notice dead willow; looking southeast

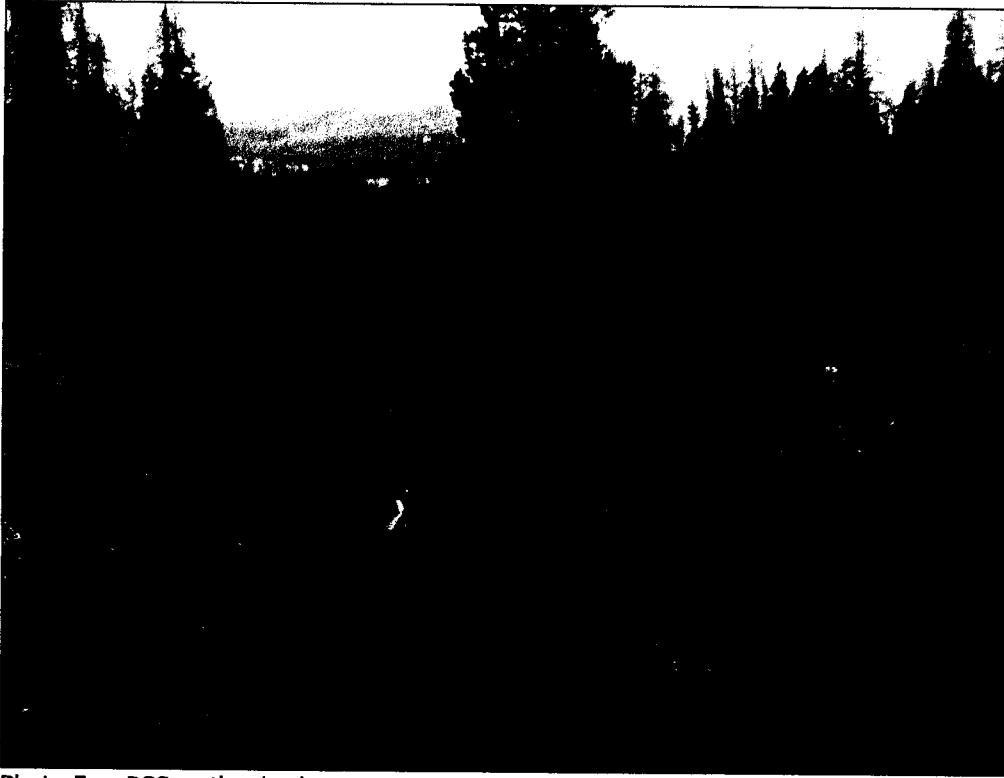


Photo 5 — PSS wetlands along unnamed tributary (Wetland C); looking southwest

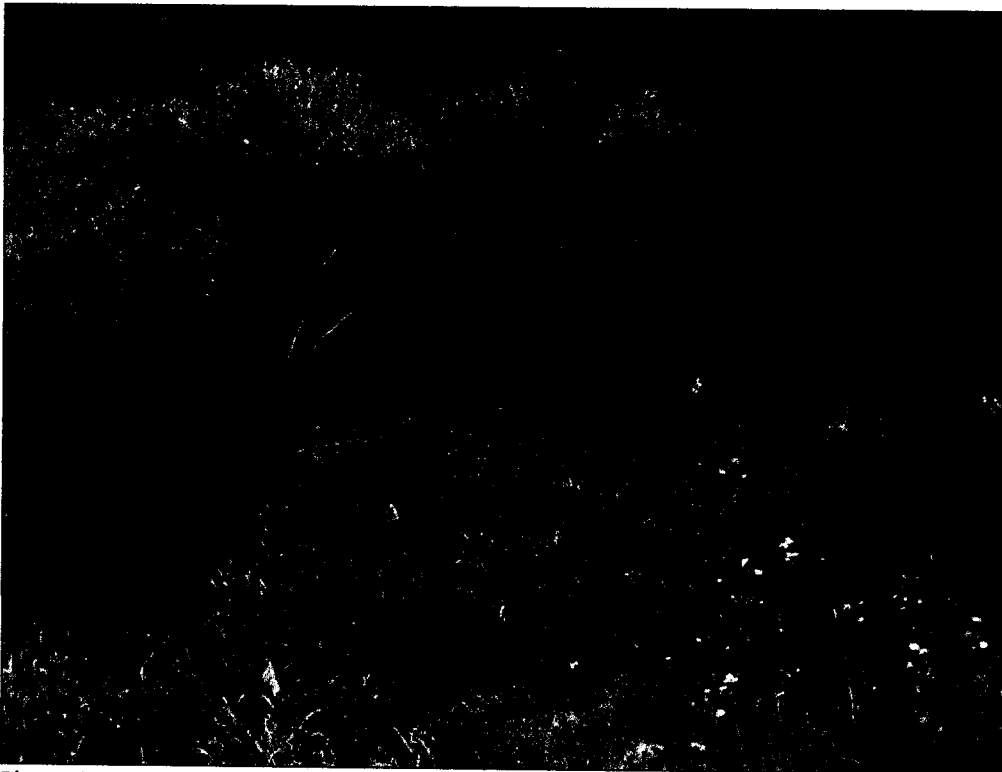


Photo 6 — SP-4 and PSS wetlands along unnamed tributary (Wetland C); looking northeast

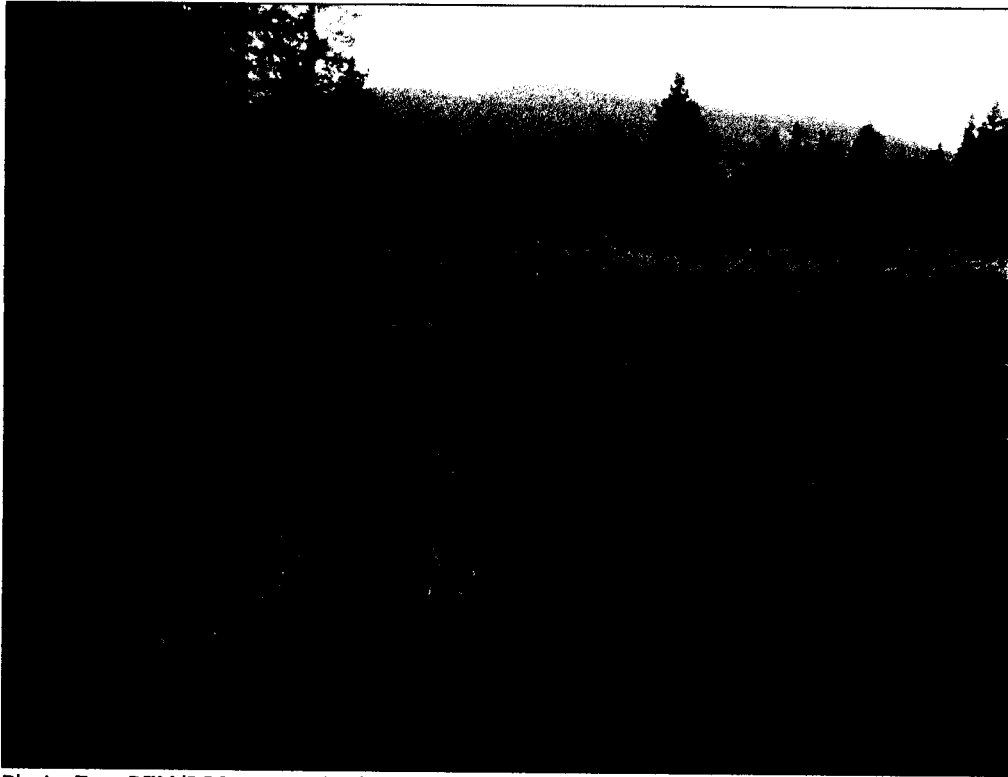


Photo 7 — PEM/PSS mix in the large wetland complex (part of Wetland B); looking west



Photo 8 — PEM wetland (wetland "channel") below the spring (Wetland B); looking east

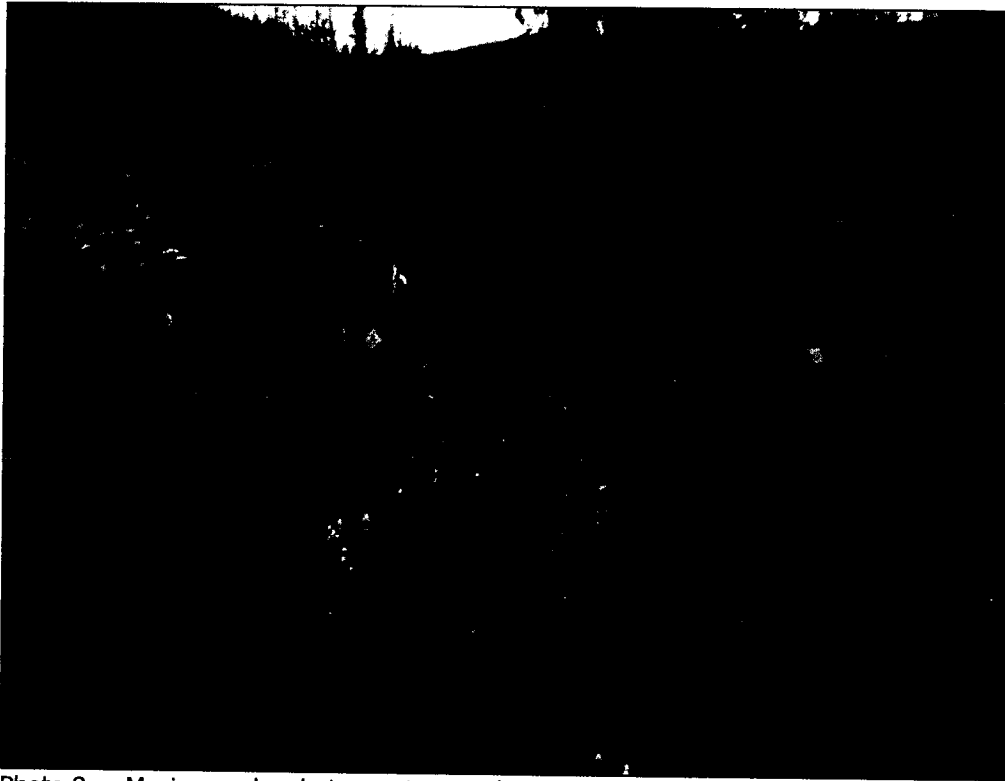


Photo 9 — Mesic meadow between two wetland areas at SP-5; looking northeast



Photo 10 — Blue River; looking northwest

Attachment C
List of Plant Species Observed

Table C-1: Plants Observed In and Near Wetlands

Common Name	Scientific Name	Wetland Indicator Status ¹
Woody Plants		
Silver sagebrush	<i>Artemisia cana</i>	FAC
Resin birch	<i>Betula glandulosa</i>	OBL
Shrubby cinquefoil	<i>Dasiphora fruticosa</i>	FACW
Common juniper	<i>Juniperus communis</i>	UPL
Twinberry honeysuckle	<i>Lonicera involucrata</i>	FAC
Engelmann spruce	<i>Picea engelmannii</i>	FACU
Lodgepole pine	<i>Pinus contorta</i>	FACU
Quaking aspen	<i>Populus tremuloides</i>	FAC
Wood's rose	<i>Rosa woodsii</i>	FAC
Drummond's willow	<i>Salix drummondiana</i>	FACW
Park willow	<i>Salix monticola</i>	OBL
Diamondleaf willow	<i>Salix planifolia</i>	OBL
Wolf's willow	<i>Salix wolfii</i>	OBL
Herbaceous Plants		
Common yarrow	<i>Achillea millefolium</i>	FACU
Columbian monkshood	<i>Aconitum columbianum</i>	FACW
Blue-joint grass	<i>Calamagrostis canadensis</i>	OBL
Heartleaf bittercress	<i>Cardamine cordifolia</i>	OBL
Water sedge	<i>Carex aquatilis</i>	OBL
Woolly sedge	<i>Carex pellita</i>	OBL
Beaked sedge	<i>Carex rostrata (C. utriculata)</i>	OBL
Field chickweed	<i>Cerastium arvense ssp. strictum</i>	UPL
Fireweed	<i>Chamerion angustifolium</i>	FACU
Meadow thistle	<i>Cirsium scariosum</i>	NI
Darkthroat shootingstar	<i>Dodecatheon pulchellum</i>	FACW
Pimpernel willowherb	<i>Epilobium anagallidifolium</i>	FACW
Fringed willowherb	<i>Epilobium ciliatum</i>	FAC
Field horsetail	<i>Equisetum arvense</i>	FAC

Common Name	Scientific Name	Wetland Indicators Status
Scouringrush horsetail	<i>Equisetum hyemale</i>	FACW
Virginia strawberry	<i>Fragaria virginiana</i>	FACU
Northern bedstraw	<i>Galium septentrionale</i>	FACU
Richardson's geranium	<i>Geranium richardsonii</i>	FACU
Largeleaf avens	<i>Geum macrophyllum</i>	OBL
Common cowparsnip	<i>Heracleum maximum</i>	FAC
Baltic rush	<i>Juncus balticus</i>	FACW
Longstyle rush	<i>Juncus longistylis</i>	FACW
Merten's rush	<i>Juncus mertensianus</i>	OBL
Small-flowered woodrush	<i>Luzula parviflora</i>	FAC
Starry false lily of the valley	<i>Maianthemum stellatum</i>	FAC
Tall fringed bluebells	<i>Mertensia ciliata</i>	OBL
Seep monkeyflower	<i>Mimulus guttatus</i>	OBL
Bracted lousewort	<i>Pedicularis bracteosa</i>	UPL
Elephanthead lousewort	<i>Pedicularis groenlandica</i>	OBL
Alpine timothy	<i>Phleum alpinum</i>	FAC
Scentbottle	<i>Platanthera dilatata</i> var. <i>albiflora</i>	FACW
Kentucky bluegrass	<i>Poa pratensis</i>	FACU
Rough bluegrass	<i>Poa trivialis</i>	FACW
Towering Jacob's ladder	<i>Polemonium foliosissimum</i>	FACU
Jacob's ladder	<i>Polemonium pulcherrimum</i>	UPL
Alpine bistort	<i>Polygonum viviparum</i>	FAC
Toothed willow dock	<i>Rumex salicifolius</i>	FAC
Nodding ragwort	<i>Senecio bigelovii</i>	UPL
Arrowleaf ragwort	<i>Senecio triangularis</i>	OBL
Felwort	<i>Swertia perennis</i>	FACW
Common dandelion	<i>Taraxacum officinale</i>	FACU
Alsike clover	<i>Trifolium hybridum</i>	FAC
Stinging nettle	<i>Urtica dioica</i>	FAC
Colorado false hellebore	<i>Veratrum tenuipetalum</i>	FACW

Common Name	Scientific Name	Wetland Indicator Status ¹
American vetch	<i>Vicia americana</i>	NI

¹ Based on Reed (1988): OBL = obligate wetland species, >99% probability of occurring in a wetland; FACW = facultative wetland species, 67-99% probability of occurring in a wetland; FAC = facultative species, 34-66% probability of occurring in a wetland; FACU = facultative upland species, <33% probability of occurring in a wetland; and UPL = <1% probability of occurring in a wetland. If the species is not included in Reed (1988) then the indicator status is assumed to be UPL.

Attachment D
Nationwide Permit PCN Checklist

U.S. Army Corps of Engineers
South Pacific Division



Nationwide Permit Pre-Construction Notification (PCN) Form

This form integrates requirements of the Nationwide Permit Program within SPD, including General and Regional Conditions. Please consult instructions prior to completing this form.

Box 1 Project Name Ver Ploeg Property			
Applicant Name Brenton Ver Ploeg		Applicant Title Owner	
Applicant Company, Agency, etc.		Applicant's internal tracking number (if any)	
Mailing Address 1980 Tigertail Avenue, Coconut Grove, FL 33133			
Work Phone with area code 305-577-3996	Home Phone with area code	Fax # with area code	E-mail Address BVerPloeg@vpl-law.com
Relationship of applicant to property: <input checked="" type="checkbox"/> Owner <input type="checkbox"/> Purchaser <input type="checkbox"/> Lessee <input type="checkbox"/> Other:			
Application is hereby made for verification that subject regulated activities associated with subject project qualify for authorization under a Corps nationwide permit or permits as described herein. I certify that I am familiar with the information contained in this application, and that to the best of my knowledge and belief, such information is true, complete, and accurate. I further certify that I possess the authority to undertake the proposed activities. I hereby grant to the agency to which this application is made, the right to enter the above-described location to inspect the proposed, in-progress or completed work. I agree to start work only after all necessary permits have been received.			
Signature of applicant 			Date (m/d/yyyy) 12/15/11

Box 2 Authorized Agent/Operator Name <i>(If an agent is acting for the applicant during the permit process)</i> Andy Herb			
Agent/Operator Title Ecologist		Agent/Operator Company, Agency, etc. AlpineEco	
Mailing Address 1127 ADAMS STREET, DENVER, CO 80206			
Work Phone with area code 303-859-1475	Home Phone with area code 303-859-1475	Fax # with area code	E-mail Address andyherb@alpine-eco.com
I hereby authorize the above named authorized agent to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application. I understand that I am bound by the actions of my agent and I understand that if a federal or state permit is issued, I, or my agent, must sign the permit.			
Signature of applicant 			Date (m/d/yyyy) 12/15/11
I certify that I am familiar with the information contained in this application, and that to the best of my knowledge and belief, such information is true, complete, and accurate.			
Signature of authorized agent 			Date (m/d/yyyy) 12/15/11

Box 3 Name of Property Owner(s), if other than Applicant: US FOREST SERVICE DILLON RANGER DISTRICT, MR. PAUL SEMMER	
Owner Title	Owner Company, Agency, etc.
Mailing Address PO Box 620, Silverthorne, CO 80498	
Work Phone with area code (970) 262-3448	Home Phone with area code

Box 4 Name of Contractor(s) (if known):	
Contractor Title	Contractor Company, Agency, etc.
Mailing Address	
Work Phone with area code	Home Phone with area code

Box 5 Site Number <u>1</u> of <u>1</u>. Project location(s), including street address, city, county, state, zip code where proposed activity will occur: 15200 HIGHWAY 9, UNINCORPORATED SUMMIT COUNTY, COLORADO	
Waterbody (if known, otherwise enter "an unnamed tributary to"): an unnamed tributary to	
Tributary to what known, downstream waterbody: Blue River	
Latitude & Longitude (D/M/S, DD, or UTM): 39.55273, -106.039365	Zoning Designation (no codes or abbreviations):
Assessors Parcel Number:	Section, Township, Range: 6, T6S, R77W
USGS Quadrangle map name: Frisco, CO	
Watershed and other location descriptions, if known: HUC: 14010002 (Blue)	
Directions to the project location: From Frisco travel south on Highway 9 to approximately 0.25 mile past Swan Mountain Road, turn left into driveway at 15200 Highway 9.	

Nature of Activity (Description of project, include all features, see instructions):

THE PROJECT INVOLVES IMPROVING APPROXIMATELY 2,100 LINEAR FEET OF AN EXISTING DRIVEWAY TO COUNTY STANDARDS AS PART OF THE DEVELOPMENT OF TWO BUILDING SITES/ENVELOPES ON THE PROPERTY. THE NEW DRIVEWAY WILL HAVE A 12-FOOT WIDE DRIVING SURFACE WITH 4 INCHES OF CLASS 6 ROADBASE. BOULDER RETAINING WALLS WILL BE INSTALLED IN SOME AREAS WITH STEEP SIDE SLOPES. THE PROJECT WILL ONLY RESULT IN IMPACTS TO ONE SMALL WETLAND, APPROXIMATELY 200 FEET BELOW A SPRING. ALTHOUGH A PORTION OF THE IMPROVED DRIVEWAY IS ON THE BLUE RIVER FLOODPLAIN AND THERE IS ONE CROSSING OF AN UNNAMED TRIBUTARY (NEW BRIDGE), THESE WATERWAYS AND THEIR WETLANDS WILL NOT BE IMPACTED BY THE PROJECT.

Project Purpose (Description the reason or purpose of the project, see instructions):

TO PROVIDE ACCESS TO THE PLANNED DEVELOPMENT AREA PER SUMMIT COUNTY CODE

Use Box 6 if dredged and/or fill material is to be discharged:

Box 6 Reason(s) for Discharge into waters of the United States:

PLACEMENT OF FILL MATERIAL FOR IMPROVED DRIVEWAY

Type(s) of material being discharged and the amount of each type in cubic yards:

Rock: 1 cy; soil: 2 cy

Total surface area in acres of wetlands or other waters of the U.S. filled (see instructions):

60 square feet

Indicate in ACRES and LINEAR FEET (where appropriate) the proposed impacts to **waters of the United States**, and identify the impact(s) as permanent and/or temporary for each water body type listed below:

Water Body Type	Permanent		Temporary	
	Acres	Linear feet	Acres	Linear feet
Wetland	60 SF	NA	0	NA
Riparian streambed	0	0	0	0
Unveg. streambed	0	0	0	0
Lake	0	0	0	0
Ocean	0	0	0	0
Other	0	0	0	0
Total:	60 SF	0	0	0

Potential indirect and/or cumulative impacts of proposed discharge (if any):

None are expected.

Required drawings (see instructions):

Vicinity map: ☒ Attached (or mail copy separately if applying electronically)

To-scale Plan view drawing(s): ☒ Attached (or mail copy separately if applying electronically)

To-scale elevation and/or Cross Section drawing(s): ☐ Attached (or mail copy separately if applying electronically)

Has a wetlands/waters of the U.S. delineation been completed?

☒ Yes, Attached (or mail copy separately if applying electronically) ☐ No

If a delineation has been completed, has it been verified in writing by the Corps?

☐ Yes, Date of approved jurisdictional determination (m/d/yyyy): Corps file number: ☒ No

Please attach¹ one or more color photographs of the existing conditions (aerials if possible).

¹or mail copy separately if applying electronically

Dredge Volume: Indicate in CUBIC YARDS the quantity of material to be dredged or used as fill: No dredging; 3 cy of fill

Indicate type(s) of material proposed to be discharged in waters of the United States:
soil and rock

For proposed discharges of dredged material into waters of the U.S. (including beach nourishment), please attach² a proposed Sampling and Analysis Plan (SAP) prepared according to Inland Testing Manual (ITM) guidelines (including Tier I information, if available).

²or mail copy separately if applying electronically

Is any portion of the work already complete? ☐ YES ☒ NO

If yes, describe the work:

Box 7 Intended NWP number (1st)³: 14

Intended NWP number (2nd):

Intended NWP number (3rd):

³Enter the intended permit type(s). See NWP regulations for permit types and qualification information (http://www.usace.army.mil/inet/functions/cw/cecwo/reg/nationwide_permits.htm).

Box 8 Authority:

Is Section 10 of the Rivers and Harbors Act applicable?: ☐ YES ☒ NO

Is Section 404 of the Clean Water Act applicable?: ☒ YES ☐ NO

Box 9 Is the discharge of fill or dredged material for which Section 10/404 authorization is sought part of a larger plan of development?: ☐ YES ☒ NO

If discharge of fill or dredged material is part of development, name and proposed schedule for that larger development (start-up, duration, and completion dates):

Location of larger development (If discharge of fill or dredged material is part of a plan of development, a map of suitable quality and detail of the entire project site should be included):

Total area in acres of entire project area (including larger plan of development, where applicable):

11

Box 10 Threatened or Endangered Species

Please list any federally-listed (or proposed) threatened or endangered species or critical habitat within the project area (use scientific names (e.g., Genus species), if known):

a. None
c.
e.

b.
d.
f.

Have surveys, using U.S. Fish and Wildlife Service/NOAA Fisheries protocols, been conducted?

☐ Yes, Report attached (or mail copy separately if applying electronically) ☒ No

If a federally-listed species would be impacted, please provide a description and a biological evaluation.

☐ Yes, Report attached (or mail copy separately if applying electronically) ☒ Not attached

Has the USFWS/NOAA Fisheries issued a Biological Opinion?

☐ Yes, Attached (or mail copy separately if applying electronically) ☒ No

If yes, list date Opinion was issued (m/d/yyyy):

Has Section 7 consultation been initiated by another federal agency?

☐ Yes, Initiation letter attached (or mail copy separately if applying electronically) ☒ No

Has Section 10 consultation been initiated for the proposed project?

☐ Yes, Initiation letter attached (or mail copy separately if applying electronically) ☒ No

Box 11 Historic properties and cultural resources:

Please list any historic properties listed (or eligible to be listed) on the National Register of Historic Places:

a. None
c.
e.

b.
d.
f.

Are any cultural resources of any type known to exist on-site?

☐ Yes ☒ No

Has an archaeological records search been conducted?

☒ Yes, Report attached (or mail copy separately if applying electronically) ☐ No

Has a archaeological pedestrian survey been conducted for the site?

☒ Yes, Report attached (or mail copy separately if applying electronically) ☐ No

Has a Section 106 MOA been signed by another federal agency and the SHPO?

☐ Yes, Attached (or mail copy separately if applying electronically) ☒ No

If yes, list date MOA was signed (m/d/yyyy):

Has Section 106 consultation been initiated by another federal agency?

☐ Yes, Initiation letter attached (or mail copy separately if applying electronically) ☒ No

Box 12 Measures taken to avoid and minimize impacts to waters of the United States (if any):

- Maximizing the use of previously disturbed land by keeping the original driveway alignment
- Keeping the width of the improved driveway to the minimum required by the County
- Making the driveway improvements on the Blue River floodplain on the uphill-side (wherever possible) to avoid impacts to the river and its wetlands
- Using retaining walls in some areas to further minimize the roadway footprint
- Designing a bridge long enough to avoid impacting the unnamed tributary and its wetlands
- Configuring the building envelopes to avoid impacts to wetlands

Include multiple copies of Box 13 for separate sites.

Box 13 Proposed Compensatory Mitigation (site 1 of 1) related to fill/excavation and dredge activities. Indicate in ACRES and LINEAR FEET (where appropriate) the total quantity of waters of the United States proposed to be created, restored, enhanced and/or preserved for purposes of providing compensatory mitigation. Indicate water body type (wetland, riparian streambed, unvegetated streambed, lake, ocean, other) or non-jurisdictional (uplands⁵). Indicate mitigation type (on- or off-site by applicant, mitigation bank, in-lieu fee program):

Water Body Type	Created	Restored	Enhanced	Preserved	Mitigation type
Example: wetland	0.8 acre	0.2 acre	-	-	On-site by app
Example: riparian stream	-	-	3.0 acres/1300 lf	-	ILFP
Wetland	0	0	>60sf of the Blue River floodplain	0	On-site by applicant
Totals:	0	0	>60sf of the Blue River floodplain	0	

⁵ For uplands, please indicate if designed as an upland buffer.

If no mitigation is proposed, provide detailed explanation of why no mitigation would be necessary:

Has a draft/conceptual mitigation plan been prepared in accordance with the Army Corps of Engineers District guidelines? ☒ Yes, Attached (or mail copy separately if applying electronically) ☐ No

Mitigation site Latitude & Longitude (D/M/S, DD, or UTM): 39.55130, -106.040591	USGS Quadrangle map name: Frisco, CO
Assessors Parcel Number:	Section, Township, Range: 6, T6S, R77W
Other location descriptions, if known: On project property along the Blue River	
Directions to the mitigation location: See above	

Box 14 Water Quality Certification (see instructions):Applying for certification? ☐ Yes, Attached (or mail copy separately if applying electronically) ☒ NoCertification issued? ☐ Yes, Attached (or mail copy separately if applying electronically) ☒ NoExempt? ☐ Yes ☒ NoIf exempt, state why: Agency concurrence? ☐ Yes, Attached ☐ No**Box 15 Coastal Zone Management Act** (see instructions):Is the project located within the Coastal Zone? ☐ Yes ☒ No

If yes, applying for a coastal commission-approved Coastal Development Permit?

☐ Yes, Attached (or mail copy separately if applying electronically) ☐ No

If no, applying for separate CZMA-consistency certification?

☐ Yes, Attached (or mail copy separately if applying electronically) ☒ NoPermit/Consistency issued? ☐ Yes, Attached (or mail copy separately if applying electronically) ☐ NoExempt? ☐ Yes ☐ No

If exempt, state why:

Box 16 List of other certifications or approvals/denials received from other federal, state, or local agencies for work described in this application:

Agency	Type Approval ⁴	Identification No.	Date Applied	Date Approved	Date Denied
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None					
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⁴ Would include but is not restricted to zoning, building, and flood plain permits

NWP General Conditions (GC) checklist:

1. Navigation:

Project would be in compliance with GC? ☒ Yes ☐ No

Explain:

2. Aquatic Life Movements:

Project would be in compliance with GC? ☒ Yes ☐ No

Explain:

3. Spawning Areas:

Spawning areas present? ☐ Yes ☒ No

Project would be in compliance with GC? ☒ Yes ☐ No

Explain:

4. Migratory Bird Breeding Areas:

Migratory bird breeding areas present? ☐ Yes ☒ No

Project would be in compliance with GC? ☒ Yes ☐ No

Explain:

5. Shellfish Beds:

Shellfish beds present? ☐ Yes ☒ No

Project would be in compliance with GC? ☒ Yes ☐ No

Explain:

6. Suitable Material:

Project would be in compliance with GC? ☒ Yes ☐ No

Explain:

7. Water Supply Intakes:

Project would be in compliance with GC? ☒ Yes ☐ No

Explain:

8. Adverse Effects From Impoundments:

Project would be in compliance with GC? ☒ Yes ☐ No

Explain:

9. Management of Water Flows:

Project would be in compliance with GC? ☒ Yes ☐ No

Explain:

10. Fills Within 100-Year Floodplains:

Project would be within 100-year floodplains? ☐ Yes ☒ No

If yes, project would be in compliance with GC? ☐ Yes ☐ No

Explain:

11. Equipment:

Project would be in compliance with GC? ☒ Yes ☐ No

Explain:

12. Soil Erosion and Sediment Controls:

Project would be in compliance with GC? ☒ Yes ☐ No

Explain:

13. Removal of Temporary Fills:

Project would be in compliance with GC? ☒ Yes ☐ No

Explain:

14. Proper Maintenance:

Project would be in compliance with GC? ☒ Yes ☐ No

Explain:

15. Wild and Scenic Rivers:

Project would be within a National Wild and Scenic River System (including proposed system)?

☐ Yes ☒ No

Project would be in compliance with GC? ☒ Yes ☐ No

Explain:

16. Tribal Rights:

Project would be in compliance with GC? ☒ Yes ☐ No

Explain:

17. Endangered Species: see Box 10 above.

18. Historic Properties: see Box 11 above.

19. Designated Critical Waters (*check those that apply*)

Includes:

- 1) ☐ NOAA-designated marine sanctuaries,
- 2) ☐ National Estuarine Research Reserves,
- 3) ☐ State natural heritage sites,
- 4) ☐ Officially designated waters

Applicant is aware of the restrictions a) and b) below? ☒ Yes ☐ No

a) NWP 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, and 50: No NWP can be authorized.

b) NWP 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, and 38: Notification is required.

20. Mitigation: see Box 13 above.

21. Water Quality (401 Certification): see Box 14 above.

22. Coastal Zone Permit: see Box 15 above.

23. Regional and Case-By-Case Conditions:

Complete the Regional Conditions checklist below.

Project would be in compliance with any Case-by-case conditions? ☒ Yes ☐ No

Explain: Spring nearby but not within 100 feet of fill location.

24. Use of Multiple Nationwide Permits:

Applicant is aware that if total proposed acreage of impact exceeds acreage limit of NWP with highest specified acreage, no NWP can be issued? ☒ Yes ☐ No

25. Transfer of Nationwide Permit Verifications:

Applicant is aware of this permit transfer requirement? ☒ Yes ☐ No

26. Compliance Certification:

Applicant is aware of this post-construction requirement? ☒ Yes ☐ No

27. Pre-Construction Notification:

If a PCN is required, the PCN includes: (*check those that apply*)

☒ Delineation of wetlands and other waters of the U.S.

☐ If project results in the loss of greater than 1/10 acre of wetlands, a compensatory mitigation plan or statement describing how the mitigation requirement will be satisfied

☒ For non-Federal applicants, a list of threatened or endangered species or designated critical habitat that might be affected by the proposed work

☐ For Federal applicants, documentation demonstrating compliance with the Endangered Species Act

☒ For non-Federal applicants, a list of historic properties listed on, or determined eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places that may be affected by the proposed work; or a vicinity map indicating the location of the historic property

☐ For Federal applicants, documentation demonstrating compliance with the National Historic Preservation Act

28. Single and Complete Project:

Project would be in compliance with GC? ☒ Yes ☐ No

Explain:

NWP Regional Conditions (RC) checklist:

II. Sacramento District (SPK) in California, Nevada, and Utah:

SPK Regional conditions to be applied across the entire Sacramento District including California, Nevada, and Utah (except Colorado):

1. Is pre-construction notification (PCN) required? ☐ Yes ☐ No

If yes, notification pursuant to General Condition 27 is required using either the South Pacific Division Preconstruction Notification (PCN) Checklist or a completed application form (ENG Form 4345). In addition, the PCN shall include:

- a. A written statement explaining how the activity has been designed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States;
- b. Drawings, including plan and cross-section views, clearly depicting the location, size and dimensions of the proposed activity. The drawings shall contain a title block, legend and scale, amount (in cubic yards) and size (in acreage) of fill in Corps jurisdiction, including both permanent and temporary fills/structures. The ordinary high water mark or, if tidal waters, the high tide line should be shown (in feet), based on National Geodetic Vertical Datum (NGVD) or other appropriate referenced elevation; and
- c. Pre-project color photographs of the project site taken from designated locations documented on the plan drawing.

2. Will mitigation be completed before or concurrent with construction of the project? ☐ Yes ☐ No

Compensatory mitigation shall be completed as required by special conditions of the NWP verification before or concurrent with construction of the authorized activity, except when specifically determined to be impracticable by the Sacramento District. When project mitigation involves use of a mitigation bank or in-lieu fee program, payment shall be made before commencing construction.

3. Does the project have property which will be preserved as part of mitigation for authorized impacts? ☐ Yes ☐ No

If yes, the NWP verification shall be recorded against the preserved property with the Registrar of Deeds or other appropriate official charged with the responsibility for maintaining records of title to or interest in real property.

Will structures, including boat ramps or docks, marinas, piers, and permanently moored vessels, be constructed in or adjacent to navigable waters? ☐ Yes ☐ No

If yes, the NWP verification shall be recorded against the area with the Registrar of Deeds or other appropriate official charged with the responsibility for maintaining records of title to or interest in real property. The recordation shall also include a map showing the surveyed location of the authorized structure and any associated areas preserved to minimize or compensate for project impacts.

4. Will any wetlands, other aquatic areas, and/or any vegetative buffers be preserved as part of mitigation for impacts? ☐ Yes ☐ No

If yes, these areas shall be placed into a separate "preserve" parcel prior to discharging dredged or fill material into waters of the United States, except where specifically determined to be impracticable by the Sacramento District. Permanent legal protection shall be established for all preserve parcels, following Sacramento District approval of the legal instrument.

5. The permittee shall allow Corps representatives to inspect the authorized activity and any mitigation areas at any time deemed necessary to determine compliance with the terms and conditions of the NWP verification. The permittee will be notified in advance of an inspection.

6. Is a waiver of the 300 linear foot limitation for intermittent and ephemeral streams requested? ☐ Yes ☐ No

If yes, an analysis of the impacts to the stream environment, measures taken to avoid and minimize losses, other project alternatives that were considered (but were found not to be practicable), and a mitigation plan describing how the unavoidable losses will be offset, must be included.

7. Is a road crossing proposed? ☐ Yes ☐ No

If yes, road crossings shall be designed to ensure fish passage, especially for anadromous fish. Bridge designs that span the stream or river, utilize pier or pile supported structures, or involve large bottomless culverts with a natural streambed, where the substrate and streamflow conditions approximate existing channel conditions shall be employed.

Is an approach fill proposed? ☐ Yes ☐ No

Approach fills in waters of the United States below the ordinary high water mark are not authorized under the NWPs, except where avoidance has specifically been determined to be impracticable by the Sacramento District.

8. Are trenching activities proposed under NWP 12? ☐ Yes ☐ No

If yes, clay blocks, bentonite, or other suitable material shall be used to seal the trench to prevent the utility line from draining waters of the United States, including wetlands.

9. Are activities involving hard-armoring of the bank toe or slope proposed under NWP 13? ☐ Yes ☐ No

If yes, notification pursuant to General Condition 27 is required. Bank stabilization shall include the use of vegetation or other biotechnical design to the maximum extent practicable.

10. Is the activity proposed under NWP 23? ☐ Yes ☐ No

If yes, notification pursuant to General Condition 27 is required. The PCN shall include a copy of the signed Categorical Exclusion document and final agency determinations regarding compliance with Section 7 of the Endangered Species Act, Essential Fish Habitat under the Magnusson-Stevens Act, and Section 106 of the National Historic Preservation Act.

11. Are activities which will result in the loss of greater than 300 linear feet of streambed proposed under NWP 44? ☐ Yes ☐ No

If yes, the discharge shall not cause the loss of more than 300 linear feet of streambed unless the 300 linear foot limit is waived in writing by the Sacramento District for intermittent and ephemeral streams only. Loss of more than 300 linear feet of perennial streambed is not authorized.

Is the activity proposed within a water of the United States supporting anadromous fisheries? ☐ Yes ☐ No

This NWP does not authorize discharges in waters of the United States supporting anadromous fisheries.

12. Is channelization or relocation of an intermittent or perennial drainage proposed under NWPs 29 and/or 39? ☐ Yes ☐ No

If yes, channelization or relocation of intermittent or perennial drainage is not authorized, except when, as determined by the Sacramento District, the relocation would result in a net increase in functions of the aquatic ecosystem within the watershed.

13. Are temporary fills for construction access in waters of the United States supporting fisheries proposed under NWP 33? ☐ Yes ☐ No

If yes, temporary fills for construction access in waters of the United States supporting fisheries shall be accomplished with clean, washed spawning quality gravels where practicable as determined by the Sacramento District, in consultation with appropriate federal and state wildlife agencies.

14. Are activities which will result in the loss of greater than 0.5 acre of waters of the United States or the loss of more than 300 linear feet of ditch proposed under NWP 46? ☐ Yes ☐ No

If yes, the loss of greater than 0.5 acre of waters of the United States is not authorized. The discharge shall not cause the loss of more than 300 linear feet of ditch, unless the 300 foot linear foot limit is waived in writing by the Sacramento District.

15. Are any waters of the United States, including created, restored, or enhanced waters of the United States proposed for preservation under NWPs 29, 39, 40, 42, and/or 43? ☐ Yes ☐ No

If yes, upland vegetated buffers shall be established and maintained in perpetuity, to the maximum extent practicable, adjacent to all preserved open waters, streams and wetlands including created, restored, enhanced or

preserved waters of the U.S., consistent with General Condition 20. Except in unusual circumstances, vegetated buffers shall be at least 50 feet in width.

16. Is the proposed project located with a histosol, fen, or wetland contiguous with a fen? ☐ Yes ☐ No

If yes, all NWP's except 3, 6, 20, 27, 32, 38, and 47, are revoked. Fens are defined as slope wetlands with a histic epipedon that are hydrologically supported by groundwater. Fens are normally saturated throughout the growing season, although they may not be during drought conditions. For NWP's 3, 6, 20, 27, 32, and 38, notification pursuant to General Condition 27 is required.

17. Are activities proposed within 100 feet of the point of groundwater discharge of a natural spring? ☐ Yes ☐ No

If yes, notification pursuant to General Condition 27 is required. A spring source is defined as any location where ground water emanates from a point in the ground. For purposes of this condition, springs do not include seeps or other discharges which lack a defined channel.

SPK Regional conditions to be applied only in California:

1. Is the project located within Lake Tahoe Basin? ☐ Yes ☐ No

All NWP's within the Lake Tahoe Basin are revoked. Activities in this area shall be authorized under Regional General Permit 16 or through an individual permit.

2. Is the project located within the Primary and Secondary Zones of the Legal Delta? ☐ Yes ☐ No

NWP's 29 and 39 within the Primary and Secondary Zones of the Legal Delta are revoked. New development activities in this area will be reviewed through the Corps' standard permit process.

SPK Regional conditions to be applied only in Nevada:

1. Is the project located within Lake Tahoe Basin? ☐ Yes ☐ No

All NWP's within the Lake Tahoe Basin are revoked. Activities in this area shall be authorized under Regional General Permit 16 or through an individual permit.

SPK Regional conditions to be applied only in Utah:

1. Is the project located below 4217 feet mean sea level (msl) adjacent to the Great Salt Lake or below 4500 feet msl adjacent to Utah Lake? ☐ Yes ☐ No

For all NWP's in this area, except NWP 47, notification pursuant to General Condition 27 is required.

2. Will the project include bank stabilization activities that will affect more than 100 linear feet of perennial stream? ☐ Yes ☐ No

If yes, notification pursuant to General Condition 27 is required.

3. Will the project require NWP 27 authorization? ☐ Yes ☐ No

If yes, facilities for controlling stormwater runoff, construction of water parks such as kayak courses, and use of grout or concrete to construct in-stream structures are not authorized.

Will the project exceed 1500 linear feet (as measured on the stream thalweg), use in stream structures exceeding 50 cubic yards per structure, and/or incorporate grade control structures exceeding 1 foot vertical drop?

☐ Yes ☐ No

If yes, notification pursuant to General Condition 27 is required.

Will the project involve stream restoration? ☐ Yes ☐ No

If yes, the post project stream sinuosity shall be appropriate to the geomorphology of the surrounding area and shall be equal to, or greater than, pre-project sinuosity. Sinuosity is defined as the ratio of stream length to project reach length. Structures shall allow the passage of aquatic organisms, recreational water craft or other navigational activities unless specifically waived in writing by the District Engineer.

26. Compliance Certification:

Applicant is aware of this post-construction requirement? ☐ Yes ☐ No

27. Pre-Construction Notification:

If a PCN is required, the PCN includes: *(check those that apply)*

- ☐ Delineation of wetlands and other waters of the U.S.
- ☐ If project results in the loss of greater than 1/10 acre of wetlands, a compensatory mitigation plan or statement describing how the mitigation requirement will be satisfied
- ☐ For non-Federal applicants, a list of threatened or endangered species or designated critical habitat that might be affected by the proposed work
- ☐ For Federal applicants, documentation demonstrating compliance with the Endangered Species Act
- ☐ For non-Federal applicants, a list of historic properties listed on, or determined eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places that may be affected by the proposed work; or a vicinity map indicating the location of the historic property
- ☐ For Federal applicants, documentation demonstrating compliance with the National Historic Preservation Act

28. Single and Complete Project:

Project would be in compliance with GC? ☐ Yes ☐ No

NWP Regional Conditions (RC) checklist:

II. Sacramento District (SPK) in Colorado:

SPK Regional conditions to be applied only in Colorado in the Sacramento District:

- a. Are utility line and/or road activities crossing perennial water or special aquatic sites located within the Colorado Basin proposed under NWPs 12 and/or 14? ☒ Yes ☐ No

If yes, notification pursuant to General Condition 27 is required using either the South Pacific Division Preconstruction Notification (PCN) Checklist or a completed application form (ENG Form 4345). In addition, the PCN shall include:

1. A written statement explaining how the activity has been designed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States;
2. Drawings, including plan and cross-section views, clearly depicting the location, size and dimensions of the proposed activity. The drawings shall contain a title block, legend and scale, amount (in cubic yards) and size (in acreage) of fill in Corps jurisdiction, including both permanent and temporary fills/structures. The ordinary high water mark or, if tidal waters, the high tide line should be shown (in feet), based on National Geodetic Vertical Datum (NGVD) or other appropriate referenced elevation; and
3. Pre-project color photographs of the project site taken from designated locations documented on the plan drawing.

- b. Are bank stabilization activities proposed under NWP 13 within streams which average less than 20 feet across (measured between the ordinary high water marks) and require placement of greater than 1/4 cubic yard of suitable fill material per running foot below the plane of the ordinary high water mark? ☐ Yes ☒ No

If yes, notification pursuant to General Condition 27 (as described above) is required.

c. Is the activity proposed under NWP 27? ☐ Yes ☒ No

1. Does the activity include a fishery enhancement component? ☐ Yes ☐ No

If yes, notification pursuant to General Condition 27 (as described above) is required. The Corps will send the PCN to the Colorado Parks and Wildlife (CPW) (formerly Colorado Division of Wildlife) for review. In accordance with General Condition 27, CPW will have 10 days from the receipt of Corps notification to indicate that they will be commenting on the proposed project. CPW will then have an additional 15 days after the initial 10-day period to provide those comments. If CPW raises concerns, the applicant may either modify their plan, in coordination with CPW, or apply for a standard individual permit.

2. Does the activity involve the length of a stream? ☐ Yes ☐ No

If yes, the post-project stream sinuosity will not be significantly reduced, unless it is demonstrated that the reduction in sinuosity is consistent with the natural morphological evolution of the stream (sinuosity is the ratio of stream length to project reach length).

3. Does the activity involve a structure? ☐ Yes ☐ No

If yes, the structure will allow the upstream and downstream passage of aquatic organisms, including fish native to the reach, as well as recreational water craft or other navigational activities, unless specifically waived in writing by the District Engineer. The use of grout and/or concrete in building structures is not authorized by NWP 27.

4. Does the activity involve construction of a water park (i.e., kayak courses) or flood control project?
☐ Yes ☐ No

If yes, the construction of water parks and flood control projects are not authorized by NWP 27.

d. Is the activity proposed under NWPs 29 and/or 39? ☐ Yes ☒ No

If yes, notification pursuant to General Condition 27 (as described above) is required. A copy of the existing FEMA/locally-approved floodplain map must be submitted with the PCN. When reviewing proposed developments, the Corps will utilize the most accurate and reliable FEMA/locally-approved pre-project floodplain mapping, not post-project floodplain mapping based on a CLOMR or LOMR. However, the Corps will accept revisions to existing floodplain mapping if the revisions resolve inaccuracies in the original floodplain mapping and if the revisions accurately reflect pre-project conditions.

e. Will the activity involve the removal of temporary fills? ☐ Yes ☒ No

If yes, General Condition 13 (Removal of Temporary Fills) is amended by adding the following: When temporary fills are placed in wetlands in Colorado, a horizontal marker (i.e. fabric, certified weed-free straw, etc.) must be used to delineate the existing ground elevation of wetlands that will be temporarily filled during construction.

f. Will the activity occur within a spawning area? ☐ Yes ☒ No

If yes, General Condition 3 (Spawning Areas) is amended by adding the following: In Colorado, all Designated Critical Resource Waters (see Enclosure 1) are considered important spawning areas. Therefore, in accordance with General Condition 19 (Designated Critical Resource Waters), the discharge of dredged or fill material is not authorized by the following NWPs in these waters: NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, and 50. In addition, in accordance with General Condition 27, notification (as described above) is required for the use of the following NWPs in these waters: NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, and 38..

g. Will the activity use broken concrete as fill material? ☐ Yes ☒ No

If yes, notification pursuant to General Condition 27 (as described above) is required. Permittees must demonstrate that soft engineering methods utilizing native or non-manmade materials are not practicable (with respect to cost, existing technology, and logistics), before broken concrete is allowed as suitable fill. Use of broken concrete with exposed rebar is prohibited in perennial waters and special aquatic sites.

- h. Will the activity involve work with heavy equipment in perennial or intermittent waters of the United States?
☐ Yes ☒ No

If yes, General Condition 11 (Equipment) is amended by adding the following condition: If heavy equipment is used for the subject project that was previously working in another stream, river, lake, pond, or wetland within 10 days of initiating work, one of the following procedures is necessary to prevent the spread of New Zealand Mud Snails and other aquatic hitchhikers:

1. Remove all mud and debris from equipment (tracks, turrets, buckets, drags, teeth, etc.) and keep the equipment dry for 10 days; or
2. Remove all mud and debris from equipment (tracks, turrets, buckets, drags, teeth, etc.) and spray/soak equipment with either a 1:1 solution of Formula 409 Household Cleaner and water, or a solution of Sparquat 256 (5 ounces Sparquat per gallon of water). Treated equipment must be kept moist for at least 10 minutes; or
3. Remove all mud and debris from equipment (tracks, turrets, buckets, drags, teeth, etc.) and spray/soak equipment with water greater than 120 degrees F for at least 10 minutes.

- i. Is the activity located with a fen and/or a wetland adjacent to a fen? ☐ Yes ☒ No

If yes, all NWP's except 3, 6, 20, 27, 32, 38, and 47, are revoked. For NWP's 3, 20, 27, and 38, notification pursuant to General Condition 27 (as described above) is required and the permittee may not begin the activity until the Corps determines the adverse environmental effects are minimal. A fen is defined as:

Fen soils (histosols) are normally saturated throughout the growing season, although they may not be during drought conditions. The primary source of hydrology for fens is groundwater. Histosols are defined in accordance with the U.S. Department of Agriculture, Natural Resources Conservation Service publications on Keys to Soil Taxonomy and Field Indicators of Hydric Soils in the United States (<http://soils.usda.gov/technical/classification/taxonomy>).

- j. Is the activity proposed within 100 feet of the point of groundwater discharge of a natural spring?
☐ Yes ☒ No

If yes, all NWP's, except NWP 47, require notification pursuant to General Condition 27 (as described above). A spring source is defined as any location where ground water emanates from a point in the ground. For purposes of this condition, springs do not include seeps or other discharges which lack a defined channel.

Additional Information Regarding Minimization of Impacts and Compliance with Existing General Conditions:

1. Permittees are reminded of the existing General Condition No. 6 which prohibits the use of unsuitable material. Organic debris, building waste, asphalt, car bodies, and trash are **not** suitable material. Also, General Condition 12 requires appropriate erosion and sediment controls (i.e. all fills must be permanently stabilized to prevent erosion and siltation into waters and wetlands at the earliest practicable date). Streambed material or other small aggregate material placed along a bank as stabilization will **not** meet General Condition 12. Also, use of erosion control mats that contain plastic netting may not meet General Condition 12 if deemed harmful to wildlife.
2. Designated Critical Resource Waters in Colorado. In Colorado, a list of designated Critical Resource Waters has been published in accordance with General Condition 19 (Designated Critical Resource Waters). This list will be

published on the Albuquerque District Regulatory home page (<http://www.spa.usace.army.mil/reg/>). A copy is attached (see Enclosure 1).

3. Federally-Listed Threatened and Endangered Species. General Condition 17 requires that non-federal permittees notify the District Engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project. Information on such species, to include occurrence by county in Colorado, may be found at the following U.S. Fish and Wildlife Service website:
http://www.fws.gov/mountain%2Dprairie/endspp/name_county_search.htm.

Attachment E

Construction Plans

Ver Ploeg Driveway

Coolidge Placer, L.M.E. 0539

Summit County, Colorado



OWNER
Ver Ploeg
100 S.E. Second Street, Suite 2100
Miami, Florida 33131

R=A=N=G-E-W-E-S-T

Consulting Engineers - Land Surveyors - Construction Managers

P.O. Box 509 Silverthorn, CO 80498 Phone 970 488-6281 Denver District 623-0429

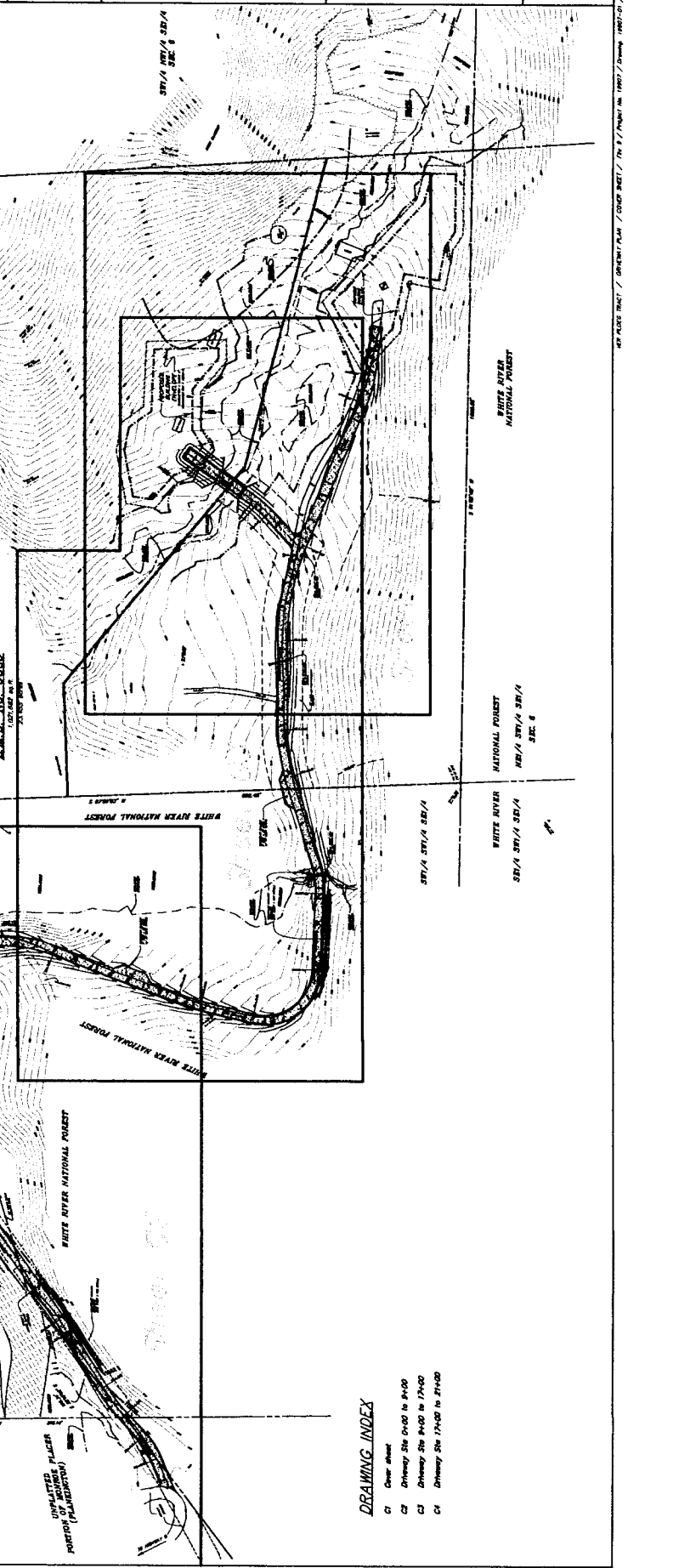
VER PLOEG TRACT DRIVEWAY

100 S.E. SECOND STREET, SUITE 2100
MIAMI, FLORIDA 33131

COVER SHEET

100 S.E. SECOND STREET, SUITE 2100
MIAMI, FLORIDA 33131

NO.	DATE	REVISION	BY	CHKD.	APPROVED	REVISION	BY	CHKD.	APPROVED
1	11-10-11		W.P.						
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3	11-10-11		W.P.						
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100	11-10-11		W.P.						




- DRAWING INDEX**
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 - C2 Driveway Sta 0+00 to 8+00
 - C3 Driveway Sta 8+00 to 17+00
 - C4 Driveway Sta 17+00 to 21+00

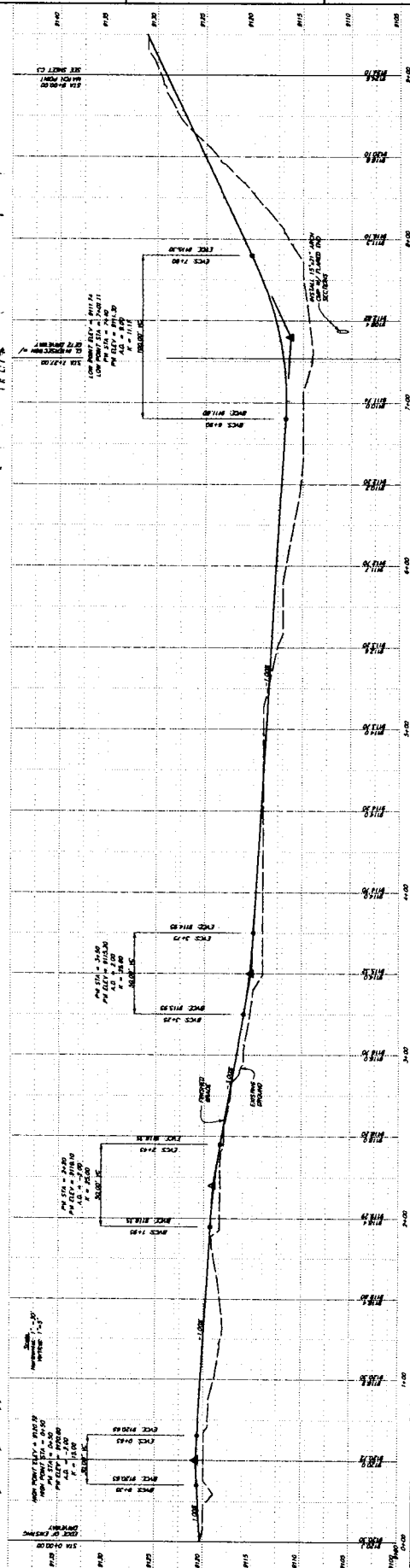
Sheet 1 of 4

Proj. No.: 19907

VER PLOEG TRACT / DRIVEWAY PLAN / COVER SHEET / THE S / PROJECT NO. 19907 / DRAWING 19907-01 / SHEET 1 OF 4

BRENTON VER PLOEG
100 S.E. SECOND STREET, SUITE 3000
MIAMI, FLORIDA 33131

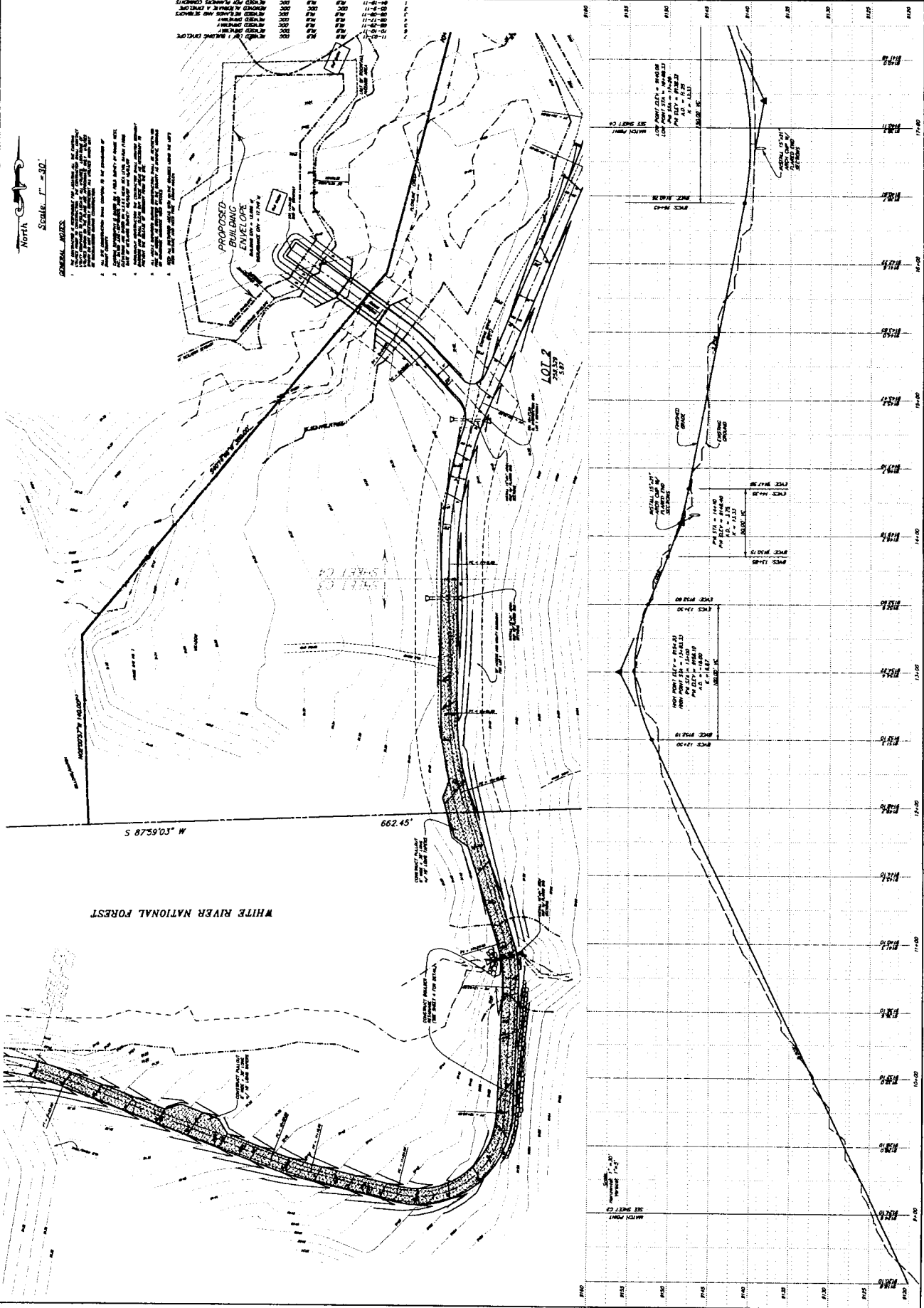

R=A=N=G=E=S, Inc.
 Consulting Engineers - Land Surveyors - Construction Managers
 P.O. Box 598 Smithtown, CO 80648 Phone 970 468-6381 Denver Direct 823-0426



North

Scale: 1" = 30'

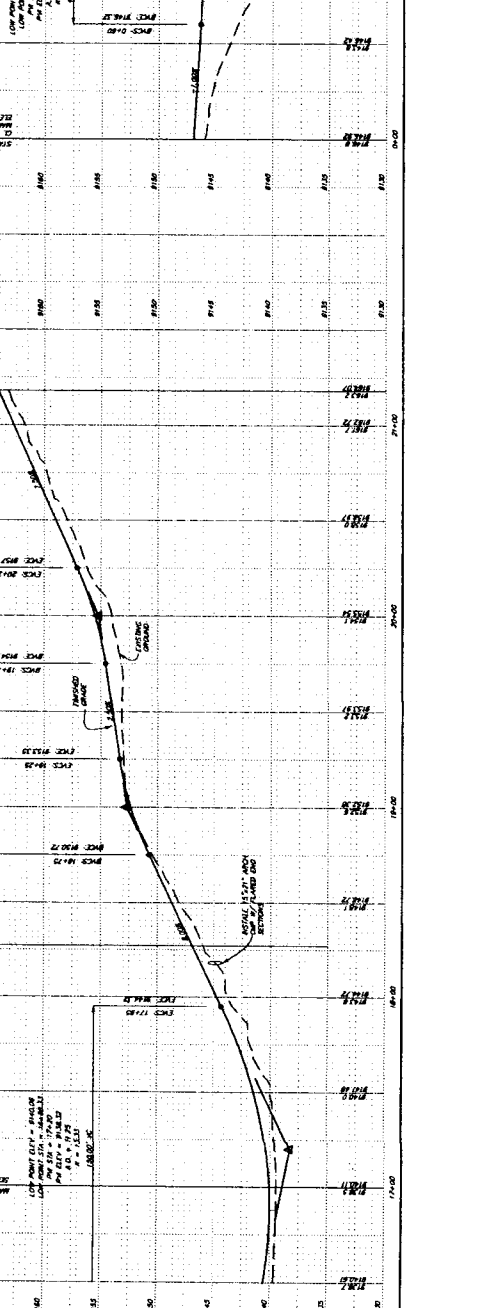
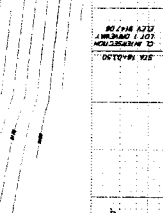
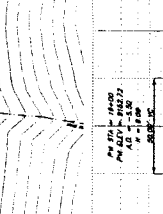
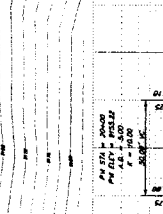
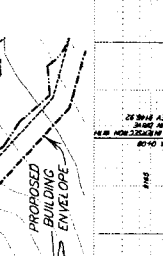
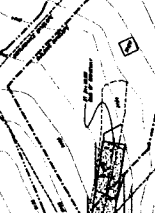
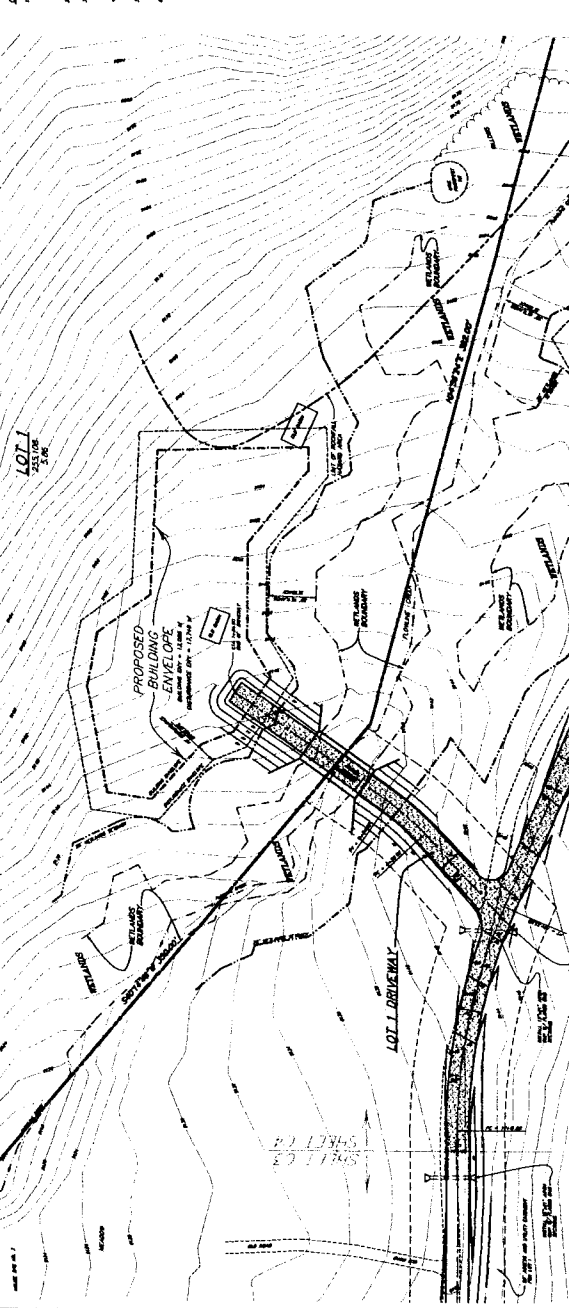
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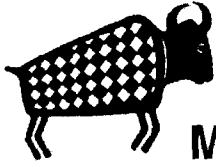
BRENTON VER PLOEG
100 S. SECOND STREET, SUITE 3000
MADEIRA, CALIFORNIA 94131
COLOSIO PLASTER, L.P. 0239
SANTA CLAY COUNTY, CALIFORNIA

R-A-N-C-E-W-E-S-T
Consulting Engineers - Land Surveyors - Construction Managers
P.O. Box 589
San Bernardino, CA 92415
Phone 970-468-6281
Fax 970-468-6282
Driver Direct 823-0426

No.	Date	Revised	By	Checked	Approved	Description
1	01-11-11		MB	MB	MB	REVISION 101 - BUILDING ENVELOPE
2	01-11-11		MB	MB	MB	REVISION 101 - BUILDING ENVELOPE
3	01-11-11		MB	MB	MB	REVISION 101 - BUILDING ENVELOPE
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Attachment F
Cultural Resources Report



M A C
Metcalf Archaeological Consultants, Inc.

29 July 2011

Brenton Ver Ploeg
1980 Tigertail Avenue
Coconut Grove, FL 33133

Re: Ver Ploeg Forest Access Road

Dear Mr. Ver Ploeg,

Enclosed is the above referenced cultural resource report for your road easment in Summit County, CO. The inventory resulted in no cultural resource discoveries. We are recommending cultural resource clearance for this project as staked at the time of survey. Two copies of this report have been sent to the White River Forest Archeologist in Glenwood Springs for review, and an electronic copy has been sent to Christie with Mathews-Leibal, LLC.

Thank you for the opportunity to conduct this work and if you have any questions, or need further assistance, do not hesitate to contact us.

Sincerely,

Sally J. Metcalf
Staff Archaeologist

enclosures

cc: White River Forest Archeologist, Glenwood Springs, CO

(970) 328-6244
FAX: (970) 328-5623
P.O. Box 899
Eagle, CO 81631
mac@metcalfarchaeology.com

(303) 425-4507
FAX: (303) 425-8911
4955 Miller Street, Suite 201
Wheat Ridge, CO 80033-2234

(701) 258-1215
FAX: (701) 258-7156
P.O. Box 2154
Bismarck, ND 58502
macnodak@metcalfarchaeology.com

Colorado Historical Society - Office of Archaeology and Historic Preservation
COLORADO CULTURAL RESOURCE SURVEY
LIMITED-RESULTS CULTURAL RESOURCE SURVEY FORM
(Page 1 of 6)

OAHP 1420
Revised 9/98

This form (#1420) is for small scale limited results projects - block surveys less than 160 acres with linear surveys under four miles. Additionally, there should be no sites and a maximum of four Isolated Finds. This form must be typed.

I. IDENTIFICATION

1. Report Title (include County): Ver Ploeg Access Road: A Class III Cultural Resource Inventory in Summit County, Colorado
2. Date of Field Work: July 27, 2011
3. Form completed by: Sally J. Metcalf Date: July 28, 2011
4. Survey Organization/Agency: Metcalf Archaeological Consultants, Inc.
Principal Investigator: Sally J. Metcalf

Principal Investigator's Signature: 

Other Crew: _____

Address: PO Box 899, Eagle, CO 81631

5. Lead Agency / Land Owner: US Forest Service, Contact: Andrea Brogan
Address: P.O. Box 948, Glenwood Springs, CO 81602
6. Client: Mathews-Leidal LLC
7. Permit Type and Number: PAW89013 (exp. 12/31/2015)
8. Report / Contract Number: _____
9. Comments: A finding of *no historic properties affected* is recommended for the proposed easement as defined at the time of survey.

II. DESCRIPTION OF UNDERTAKING / PROJECT

10. Type of Undertaking: The Ver Ploegs are proposing to upgrade or build approximately 1500ft (460m) of road to access their private property. Portions of this road are located on White River National Forest administered land. An existing two-track road will be utilized, with the possibility of a short alternate route being constructed along the Blue River if this section of existing road is not approved for upgrading. This alternate route measures about 450ft (140m).

-
10. Type of Undertaking (cont): Approximately 820ft (250m) of road crosses Forest Service administered land. This includes the alternate route and 750ft (230m) of existing road beginning at the northern most point and heading south then west. Forest property ends just east of the most western corner of the road, then angles off to the southeast.
11. Size of Undertaking (acres); actual size of project: 0.6 acres (1500ft)
Size of Project (if different); actual size of survey: 4.5 acres (1950ft)
12. Nature of the Anticipated Disturbance: The entire access will be graded to a width of 16ft and a modern era corrugated culvert will be replaced. If the alternate section is used a totally new road will be constructed in this section.
13. Comments: _____
-

III. PROJECT LOCATION

14. Description: Access to the project area is via Colorado State Highway 9. Follow the highway south from Frisco for approximately five miles to a private residential road heading east across the Blue River. This road turns back to the north for about 1/2 mile to the beginning of the proposed project.

15. Legal Location:

Quad. Map: Frisco Date(s): 1987 (photo revised)

Principal Meridian: 6th X NM Ute

NOTE: Only generalized subdivision ("quarter quarters") within each section is needed

Township: 6S Range: 77W Sec.: 6 1/4s SE/SE/SW

Township: 6S Range: 77W Sec.: 7 1/4s NE/NE/NE

16. Total number of acres surveyed: 4.5 acres

17. Comments: _____

IV. ENVIRONMENT

18. General Topographic Setting: The proposed easement is located along the northeast side of the Blue River in Summit County, Colorado, just south of Dillon Reservoir. The general area is a relatively narrow portion of the Blue River valley and follows an unnamed permanent tributary of the Blue. The Blue River is situated between the Swan Mountains to the east and the Tenmile Range to the west. There are numerous named and unnamed permanent tributaries of the Blue River throughout the area, including Barton Gulch, Gold Run Gulch and the Swan River.

Current Land Use: limited recreation

19. Flora: Vegetation consists primarily of a dense pine/spruce forest with a thick understory of shrubs, grasses and forbs. Along the unnamed intermittent (outside the project area) is a dense riparian environment consisting of willows, other shrubs, grasses and forbs.

20. Soils/Geology: Surface soils consist of a brown loamy silt with gravels and pebbles. The road bed consists of a more sandy silt with gravels and cobbles outcropping. Alluvial deposition and mining tailings exist along the Blue River. Subsurface geology of the area is defined as igneous rocks of Tertiary age, including Middle Tertiary intrusive rocks (Tweto 1979).

21. Ground Visibility: Surface visibility varied from 80% in the road bed to 0% in the forested areas along both sides of the road. There are numerous areas affording views of subsurface contents (uprooted trees, rodent back dirt piles, road cut and eroded areas).

22. Comments: _____

V. LITERATURE REVIEW

23. Location of File Search: Colorado Office of Archaeology and Historic Preservation Compass On-line Database and the White River Supervisors Office in Glenwood Springs. Also, the online GLO (General Land Office) records were searched for T6S R77W.

V. LITERATURE REVIEW (continued)

The original GLO survey plat dated 1883 and reveled no historic features/structures within the legal sections containing this area. There is an early 1888 Munroe Placer patent depicted on the GLO along the Blue River.

Date: July 25, 2011

24. Previous Survey Activity - In the project area: No previous inventories have been conducted within the current project area.

In the general region: Nine previous inventories have been conducted within the sections for this project. The closest was for the Western Land Group's Summit Land Exchange project, conducted by Metcalf Archaeology in 2000. A portion of this study is located along the southwest side of the Blue River and not within the current project boundary.

25. Known Cultural Resources - In the project area: None with in the project area.

In the general region (summarize): Nine previously recorded sites/IFs are reported in Sections 6 & 7. The closest is a segment of 5ST395 which is the Denver, South Park and Pacific Rail Road grade. The earliest reported date for this resource is 1884 which is associated with the early mining activities in Summit County. The site is on the southwest side of the Blue River and will not be impacted by the proposed project.

26. Expected Results: Expectations for finding historic cultural resources were considered moderate due to past mining activity along the Blue River. However, because the project is relatively small, and no previously recorded sites/IFs were reported nearby, expectations were slightly lower. The likelihood of discovering prehistoric sites was considered extremely low due to the setting.

VI. STATEMENT OF OBJECTIVES

27. Identify, record, and assess any cultural resources located within the potential area of effect.

VII. FIELD METHODS

28. Definitions: Site The locus of previous human activity at a minimum age of 50 years, at which the preponderance of evidence suggests either one-time diagnostically interpretable use or repeated use over time, or multiple classes of activities.

IF One or more culturally modified objects not found in the context of a site as defined above.

29. Describe Survey Method: A 100ft (30m) corridor was inventoried using pedestrian transects covering 50ft (15m) on each side of the staked access routes.

VIII. RESULTS

30. List IFs if applicable. Indicate IF locations on the map completed for Part III.

A. Smithsonian Number: _____ Description: _____

31. Using your professional knowledge of the region, why are there none or very limited cultural remains in the project area? Is there subsurface potential? The discovery of historic sites/IFs was considered somewhat likely based on past history of the area; the probability of prehistoric sites was considered less likely due to the limited project size, past surface impacts and general steepness of the immediate surrounding area. There is limited potential for buried cultural materials due to disturbance of surface from erosion and human activities, but no evidence of this was observed.

References Cited

General Land Office

1883 GLO plat map for T5S/R76W. Electronic file,
<http://www.glorerecords.blm.gov/SurveySearch/Survey> , accessed July 26, 2011.

Tweto, O.

1979 Geologic Map of Colorado. U.S. Geological Survey, Denver, Colorado.

Project Location Map

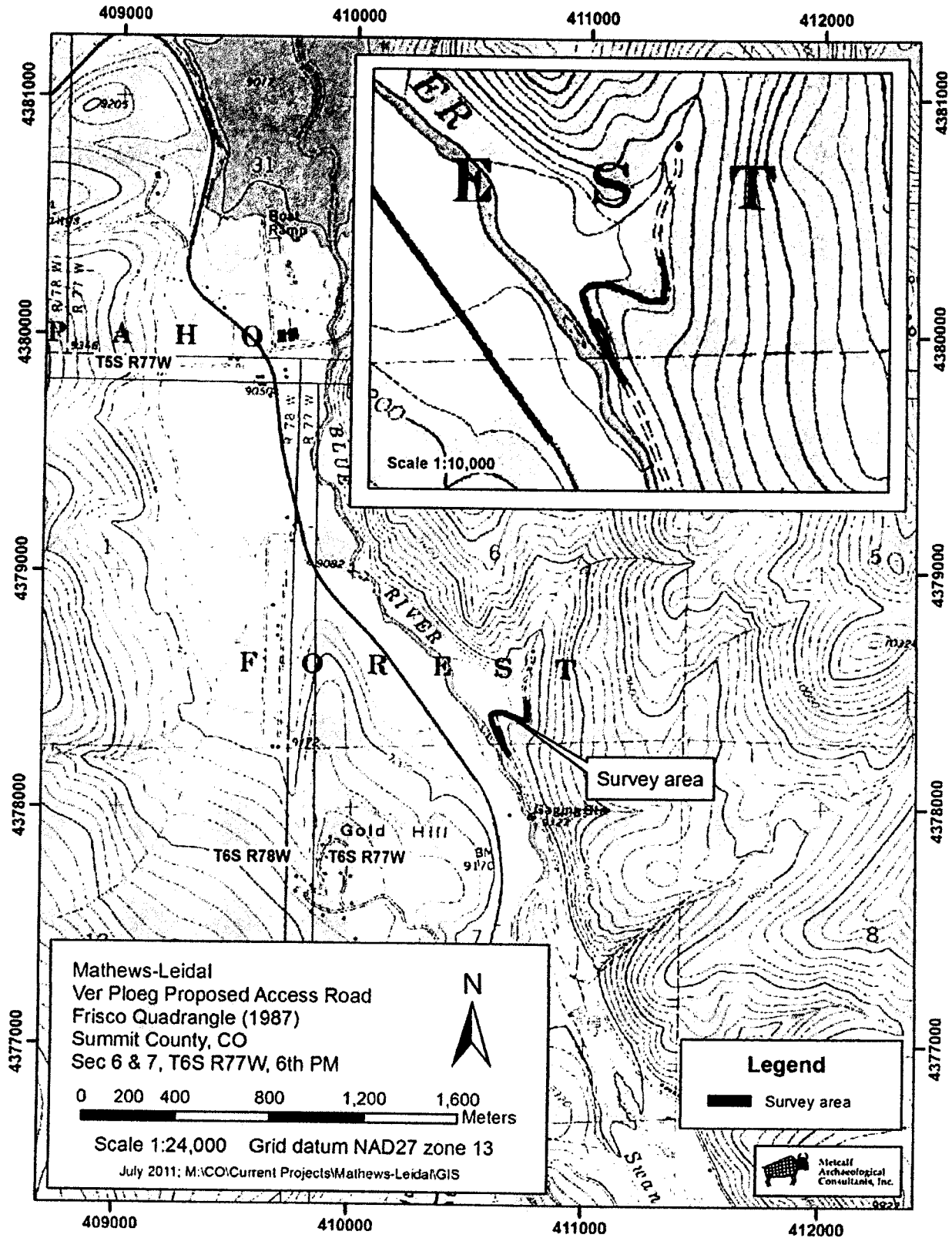


EXHIBIT D



December 2, 2011

Our Ref.: 113-81955

Mr. Brenton Ver Ploeg
1980 Tigertail Avenue
Coconut Grove, Florida 33133

**RE: ADDENDUM 1 TO "GEOLOGICAL HAZARD EVALUATION AND PRELIMINARY
GEOTECHNICAL INVESTIGATION, 15200 STATE HIGHWAY 9 SUMMIT COUNTY,
COLORADO"**

Dear Mr. Ver Ploeg:

As requested, Golder Associates Inc. (Golder) is pleased to submit this letter as an addendum to the subject report dated October 19, 2011 prepared under our project number 113-81955. We are providing the following corrections and clarifications to that report:

- The second paragraph of Section 2.0, Proposed Construction, states that the approximate grade of the proposed driveway is 10%. The actual proposed grade of the driveway in this area is 8%.
- The first sentence of Section 4.0, Site Conditions, states that the lots are part of a 12-acre parcel. The lots are actually part of a 58-acre parcel.
- The second paragraph of Section 6.4, Debris Flow and Mudflow, describes the level of hazard as low. We have been informed that a major precipitation event occurred on July 18, 2011 which caused debris flow events at several other locations to the north and south of the subject site. We did not see any field evidence of recent debris or mudflow deposition at the proposed building envelopes during our site visit on August 9, 2011.

If you should have any questions, please contact Roger Pihl at (970) 379-5341.

Sincerely,

GOLDER ASSOCIATES INC.

Roger Pihl, P.G.
Senior Geologist

Nancy Dessenberger, P.E., P.G.
Senior Consultant

c:\users\vpihl\documents\ver ploeg land use\addendum-verploegrep_2dec11.docx

Golder Associates Inc.
44 Union Boulevard, Suite 300
Lakewood, CO 80228 USA

Tel: (303) 980-0540 Fax: (303) 985-2080 www.golder.com

Golder Associates: Operations in Africa, Asia, Australasia, Europe, North America and South America

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GEOLOGICAL HAZARD EVALUATION AND PRELIMINARY GEOTECHNICAL INVESTIGATION

**15200 State Highway 9
Summit County, Colorado**

Submitted To: Mr. Brenton Ver Ploeg
1980 Tiger Tail Avenue
Coconut Grove, Florida 33133 USA

Submitted By: Golder Associates Inc.
44 Union Boulevard, Suite 300
Lakewood, Colorado 80228 USA

October 19, 2011

113-81955

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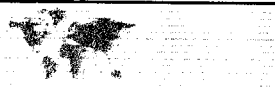
Table 1	Summary of Soil Data
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Figure 7	Rockfall Debris Near North Side of Building Envelope

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Attachment A	Test Pit Logs
Attachment B	Laboratory Test Results



1.0 PURPOSE AND SCOPE OF STUDY

This report presents the results of our geological hazard evaluation and preliminary geotechnical investigation for the Ver Ploeg Property located approximately 4 miles southeast of Frisco, Colorado. The site location is shown on Figure 1. In connection with the investigation described herein, Golder Associates Inc. (Golder) was provided with preliminary site plans for the proposed development.

The purpose of the study was to evaluate potential geological and geotechnical constraints for planning purposes and in support of the County's Land Use process. Golder evaluated the geological hazards listed in Subsection 8101.02, 8105.01A and 8105.01B of the Summit County Land Use Development Code. The study included review of existing geological and geotechnical literature pertaining to the site and excavation of four exploratory test pits. Samples of the subsurface materials were collected and tested at our laboratory in Lakewood, Colorado.

The areas which were evaluated include the two proposed building envelopes for Lot 1 and 2, and the driveway alignment including the portion located within the White River National Forest. Our preliminary subsurface investigation was conducted within the building envelopes.

This report summarizes the information obtained during our investigation and presents our observations and preliminary recommendations based on development plans provided to us, our literature review, site observations, and the subsurface conditions encountered in the test pits. Additional geotechnical investigations will be required to determine design-level recommendations and detailed geotechnical criteria.



2.0 PROPOSED CONSTRUCTION

We understand the client is currently seeking land use approval to divide the property into two parcels. One new structure is proposed for each lot. We were provided with a preliminary site layout (Figure 2) prepared by Range West Engineers and Surveyors on October 6, 2011 which shows the location of the two proposed building envelopes as well as the proposed driveway alignment.

Cuts and fills for over-lot grading may be required and are expected to be less than about 10 feet from current grade. We understand that foundation loads will likely be about 1,000 to 4,000 pounds per square foot (psf). The plans also show a 2,100 foot long by 12 foot wide access road which approaches the property from the south across White River National Forest property. The southern terminus of the driveway begins at an existing circular driveway, for the residence at 14926 SH9, at the proposed driveway Station 0+00. A cut of approximately 6 feet will be required on the east side of the driveway between Stations 1+50 and 3+00 to establish the 12 foot wide driveway and ditch section. The cut will be constructed in a slope with a natural gradient of 50%. The driveway between Stations 3+00 and 7+00 will fit between the Blue River and the natural hillside without excavation. At Station 7+30 the alignment turns to the east and climbs a slope at an approximate grade of 10%. At Station 12+00 the driveway turns north again and traverses the gently sloping hill side and enters the property at approximate Station 15+20. Minor cuts and fills less than 4 feet will be required between Stations 3+00 and 21+00.

The proposed building envelopes are located on opposite sides of a small creek and wetland riparian areas which trend northeast to southwest across the property. The proposed Lot 1 is on the northwest side of the stream with the building envelope located between the riparian area and the hillside which climbs to the northwest. Access to the Lot 1 building envelope will exit the main driveway at Station 18+30 then cross the wetland area on a single span bridge, entering the envelope at the southeast corner. Lot 2 is located on the southeast side of the stream and the proposed building envelope is near the north end of the lot, between the riparian area and the hillside which climbs to the east from the valley bottom.

The current plans do not show any outside utility services connecting to either of the homes. We understand that the client intends to design homes which are not serviced by public electricity, gas, water, sewer, communication or other public utilities. Trenching for utilities would be difficult in some areas due to the high groundwater table and shallow, igneous bedrock.



3.0 RESULTS OF LITERATURE SEARCH

The following maps, documents, and publications were reviewed as part of our search of the available literature:

1. "Geologic Map of the Leadville 1x2 degree Quadrangle, Northwestern Colorado" by Ogden Tweto, Robert Moench & John Reed Jr., USGS (1978)
2. "Soil Survey of Summit County Area, Colorado", by Ray Miles, Louis Fletcher, US Department of Agriculture Soil Conservation Service, (April 1978)
3. "Quaternary Fault and Fold Map of Colorado", by Beth Widmann, Robert M. Kirkham, William P. Rogers, Colorado Geological Survey Open File Report 98-8, (1998)
4. "Preliminary Map of Landslide Deposits, Leadville 1x2 degree Quadrangle, Colorado", by Roger Colton, Jeffery Scott, Holligan, Larry Anderson, and Penny Patterson, USGS (1975)
5. "Colorado Earthquake Information 1867 – 1996", by Robert M. Kirkham and William P. Rogers, Colorado Geological Survey, (2000)
6. "Frisco Quadrangle Colorado-Summit CO. 7.5 Minute Series (Topography)", by US Department of the Interior Geological Survey, (1970 with photo revision 1987)

Reference 1, "Geologic Map of the Leadville 1x2 degree Quadrangle, Northwestern Colorado", indicates that the soils which have been deposited on the valley floor are Holocene age (15 thousand years ago) stream, terrace and glacial outwash gravels. The surrounding slopes consist of Laramide age (40 to 72 million years ago) intrusive igneous rock consisting of quartz monzonite, granodiorite, and quartz diorite porphyries in sills and dikes.

The site is just outside the survey limits of Reference 2, "Soil Survey of Summit County Area, Colorado". Inferring from the nearby surveyed areas, the site is likely within the Frisco-Peeler Soil Complex which includes well drained soils on steep mountain slopes with gradients of 25% to 65% which are formed in glacial drift from a variety of host rock. It describes these soils as moderately permeable sandy to sandy clay loam. The soils have low potential for wind erosion and high potential for water erosion. It also states that the rock inclusions present in the soil may be problematic for excavations and leach fields and that the clayey soils will make poor to fair fill materials. Soils of the Frisco-Peeler Complex often classify as GC and SC under the Unified Soils Classification System (USCS) and exhibit low potential for volumetric change when wet, but can be highly corrosive to steel and moderately corrosive to concrete.

Geologic structure mapping described in Reference 3, "Quaternary Fault and Fold Map of Colorado", indicates that Quaternary aged faulting is not present near the project site. Reference 4, "Preliminary Map of Landslide Deposits, Leadville 1x2 degree Quadrangle, Colorado" does not show any landslide deposits near the project site.



The earthquake information presented in Reference 5, "Colorado Earthquake Information 1867 – 1996", shows three historic earthquakes in the area and a seismic event which was the result of blasting at the Climax Mine on Freemont Pass to the southwest of the project site. An earthquake occurred on September 12, 1990 near Vail, Colorado with an estimated Mercalli Intensity (MM) of V which was felt as intensity III on the MM scale in Frisco. Two other earthquakes of USGS Body Wave magnitude 4.0 and 4.3 were recorded near Dillon, Colorado and near Tennessee Pass on August 4, 1964 and May 30, 1965, respectively.



4.0 SITE CONDITIONS

The subject lots are part of a 12 acre parcel of land which is located approximately 4 miles southeast of Frisco, Colorado, on the east side of the Blue River Valley. Elevations at the site range from approximately 9100 feet near the Blue River to 9250 feet at the northwest corner of the parcel. The area near the site exhibits high elevation glacial geomorphology with modest, stable slope gradients interrupted by outcroppings of igneous bedrock. The valley floor has refilled with post-glacial granular soils during recent geologic times and shows evidence of shallow groundwater. The sides of the valleys are formed by shallow igneous bedrock overlain by granular soil cover. The slopes and valley bottoms are well vegetated with typical sub-alpine growth.

The site is located at the lower end of a watershed which drains part of the west side of Swan Mountain to the Blue River. The site is located at the lower end of the basin. The proposed development will occur in a narrow area just above where the side valley opens into the Blue River Valley.



5.0 SUBSURFACE CONDITIONS

Golder personnel visited the site on August 9th and 12th to make surface observations and plan our investigation. We also made a brief visit to the site on August 23rd to check the results of the utility locates. The test pit excavations were conducted on August 26, 2011.

A total of four exploratory test pits were excavated at accessible locations on the proposed lots within the building envelopes. Figure 2 shows the approximate locations of the test pits. The pits were advanced to practical refusal depths of 4.5 to 7.0 feet with a Caterpillar 305C CR excavator. The excavation and sampling operations were observed by a representative of Golder. Test pit logs are included as Attachment A.

The collected samples were transported to our laboratory where they were examined and classified. Laboratory tests were conducted to determine standard grain size distribution, Atterberg limits and pH of the soil. Laboratory test results are summarized in Table 1 and the laboratory data are included as Attachment B.

In general, the building envelopes and driveway are underlain by 8 inches to 2 feet of organic silty and clayey sand over 2.5 to 6 feet of medium and coarse grained sand. Gravel, cobble and boulder-sized igneous clasts are present throughout the soil profile. Weathered, in-place, igneous bedrock was encountered between 4.5 and 7 feet below ground surface (bgs) at the test pit locations. The pits could not be advanced below the bedrock/soil contact. TP3 encountered grey, orange and reddish orange, coarse clayey sand at 2.5 feet bgs in addition to a 3-inch horizontal carbon layer at 2.5 feet bgs which was not visible on the other side of the pit. The soils present in TP3 appear to be reworked as the result of human activity.

The soils were moist above 3.8 feet and became progressively wetter with depth until saturation occurred below the water table between 3.8 and 6.5 feet bgs in all pits. Groundwater seeped into the pits almost immediately after excavation indicating permeable soils near the bedrock surface. Test pit TP4 showed groundwater seeping into the pit at approximately 3.8 feet, however the pit was excavated in the existing driveway cut where the ground surface is several feet below the original, natural ground surface. At the time of our site visit, free water existed at the ground surface within the mapped wetland area. Variations in groundwater conditions can occur due to local irrigation practices, snowmelt, periods of high precipitation, site grading changes, and the surface and subsurface drainage characteristics of the surrounding area. Perched groundwater was not encountered at the time of this investigation but may be present at certain times of the year.



Soils at test pits TP1 through TP4 consisted primarily of moist, compact to dense silty sand and clayey sand (USCS designations SM and SC), with some sandy intervals containing less fines (USCS designations SW, SW/SC and SC/SM).

Grain size analysis (ASTM D 422) was conducted on nine samples from pits TP1 through TP4. The samples averaged 22.5% fines (material passing the No. 200 sieve). The smallest amount of fine material was encountered at the 4.5 foot depth in TP2 with 5% passing the No. 200 sieve. The highest amount of fine material was encountered at the 4 foot depth in TP4 with 36% passing the No. 200 sieve.

Atterberg limit (ASTM D 4318) testing was conducted on seven of the nine samples. Atterberg limits were not determined on the 4.5-foot sample from TP2 and the 4-foot sample from TP4. The 2-foot sample from TP4 was tested and determined to be non-plastic. The average liquid limit for the other six samples was 31.8 percent with an average plasticity index of 10.8 percent.

The 5-foot sample from TP1 and the 4-foot sample from TP3 were tested for pH (ASTM D 4648 Method A). The results indicate that the soils near the tested locations are generally neutral to slightly acidic with pH between 5.8 and 7.1.



6.0 GEOLOGICAL HAZARDS

6.1 Avalanche

The slope above Lot 1 is southeast-facing, generally tree covered and has slope gradients of less than 30%. The slope above Lot 2 faces west, is heavily covered with trees and has slope gradient of less than 35%. Evidence of past avalanche activity was not noted during our site visit at either proposed lot location. We believe that the avalanche hazard should be considered low at both of the proposed lot locations.

6.2 Landslides and Unstable Slopes Greater than 30%

The slopes above the proposed lots consist of shallow granular soil overburden over hard igneous bedrock. Slope gradients are generally less than 30% above Lot 1 and 35% above Lot 2. The slopes are well vegetated and appear stable in their current condition. Our literature search indicated that there are no mapped landslide deposits in this area. The potential landslide hazard related to the slopes in their current condition is considered low. Changes in the slope characteristics from natural or man-caused events may affect their stability. Temporary and permanent cut and fill slopes should be engineered to avoid adversely affecting slope stability.

6.3 Rockfall

The northern end of the Lot 1 proposed envelope lies within an historic rockfall deposition area and may be impacted by naturally occurring rockfall events within the design life of the development. One or more rockfall events have deposited igneous boulders onto the parcel ranging in size from at least 2 feet to 12 feet in diameter. There is evidence of infrequent rockfall events originating from the outcrop to the north of the envelope and depositing on the slopes below (Figures 5, 6 and 7). Figure 2 shows the approximate limit of the rockfall hazard area.

6.4 Debris Flow and Mudflow

The site is located at the lower end of a watershed which drains part of the western side of Swan Mountain to the Blue River. The basin above the site has an approximate area of 0.6 square miles with slope gradients typically ranging from 20% to 50%, and steeper locally. There are two stream branches that drain the upper part of the basin then coalesce and form a perennial stream that passes between the two proposed building envelopes. The southern branch is shown on USGS mapping as intermittent in the upper part of the basin and perennial in the lower part of the basin where it joins the intermittent northern branch. The portions of the channel above the confluence have overall gradients of approximately 25% with an overall channel gradient of near 15% below the confluence where it passes the proposed building envelopes. The proposed development will occur in a narrow area just above where the side



drainage opens into the Blue River Valley. The entire basin drains through a narrow area where the building envelopes are located that has a channel gradient of near 15% that is approximately 150 feet wide.

The slopes in the basin consist of shallow bedrock with a relatively thin cover of granular overburden. The slopes are well vegetated with Lodgepole Pine, Engelmann Spruce and other sub-alpine fir with a sparse understory of grasses, shrubs and forbs. Visual inspection of the basin indicates that slopes immediately surrounding the drainage paths above the confluence are vegetated and stable. In addition, the basin is generally well vegetated and stable with little material currently available to be mobilized during an intense precipitation event. Changes in the basin characteristics may change over time due to human activity, grazing, slope movements, changes in drainage paths and wildfire. These changes will most likely result in changes to the level of hazard present from debris flows, debris floods and mud flows.

The occurrence of debris laden clear water flows and debris floods is possible but the hazard related to these events is considered low for these sites under the current conditions in the basin. Design of the site grading and drainage for clear water flows should consider that some debris may be included as part of any larger event. Maximum probable surface water flows at the structure and bridge locations should be determined as part of the site grading design.

6.5 Unstable soils

Soils within the proposed building envelopes consist of compact silty and clayey sands and are generally considered stable with respect to supporting typical residential foundation loads. Saturated soils below the groundwater level were encountered in all of the test pits. The presence of saturated soils in excavated slopes may cause them to become unstable. Shallow groundwater in the area of the proposed envelopes will affect foundation performance and should be addressed in the final design. The probability of expansive or collapsible soils is considered to be low at this site due to the laboratory results for grain size distribution as well as the relatively high annual precipitation encountered at this elevation.

6.6 Ground Subsidence

Mapping by Range West Inc. shows a mine prospect pit to the north of the Lot 2 building envelope. TP 3 may have also encountered the remains of a prospect pit. There is no evidence of underground workings at this site however exploratory pits may occur elsewhere on the property and should be considered during the design level investigation.



7.0 SITE DEVELOPMENT

7.1 Geological Hazards

The probability of Lot 2 being adversely affected by the geological hazards identified in the Summit County Land Use Development Code (SCLUDC) is considered to be low. The probability of Lot 1 being affected is also considered to be low with the exception of rockfall hazard at the northern part of the envelope from the rock outcropping above this area. The approximate limit of the hazard area within the proposed envelope is shown on Figure 2. Mitigation of the hazard is recommended. Possible methods of mitigation include scaling and bolting of the outcrop to eliminate the source; barriers such as fences, berms and walls; or avoidance by eliminating or limiting uses within the hazard area.

7.2 Individual Sewage Disposal Systems

Shallow bedrock and groundwater will have a significant impact on the design and cost of wastewater treatment and leach fields. State and County regulations specify a minimum depth to groundwater and bedrock. In addition, there may be a minimum setback from the stream located within the mapped wetland areas.

7.3 Foundations and On-Site Soils

The results of our preliminary investigation indicate that the on-site soils are generally suitable for support of common types of shallow foundations such as footers, mats, and slab-on-grade constructed on the natural silty sand and clayey sand or properly compacted structural fill. Shallow groundwater at the site will affect the performance of each of these types of foundations and should be considered during the final design.

Improvement or removal and replacement of the foundation soils may be desirable for stability and for economic reasons and will depend on the type of foundations, loading, drainage, site grading, and risk tolerance of the client. It may be necessary to drain or remove some of the existing soil below foundations and replace it with native or imported soils subject to proper moisture and density control. There is a high potential for differential settlement for structures which are founded partially on bedrock and partially on the native soils or fill.

The following preliminary recommendations for spread footings placed on natural silty sand, clayey sand or properly compacted fill are provided for preliminary planning purposes.

- Maximum allowable soil pressure values for the overburden soils in the range of 1,000 to 4,000 psf can be used for preliminary planning for footing foundations that can tolerate up to 1 inch of settlement. Ground modification techniques discussed previously may be required to limit adverse settlement due to shallow groundwater.



- Maximum allowable bearing pressure values for the igneous bedrock in the range of 6,000 to 12,000 psf can be used for preliminary planning for footing foundations
- Final foundation design and construction should be based on a design-level, location-specific geotechnical investigation. The investigation should address the potential for settlement and poor foundation performance due to shallow groundwater at the site.
- The supporting soils below footings or slabs should be protected from freezing and wetting. Embedment should be as required by local municipal code.
- Foundation elements which span or transition from natural soils to bedrock need to be appropriately engineered, and/or specify removal and replacement of soils with properly compact fills.

Based on our test pits, it is likely that the soils within the proposed building envelopes can be excavated by conventional earthmoving equipment of suitable size to depths of 4 to 7 feet in the overburden soils. Bedrock excavation would likely require alternative means of removal such as ripping, rock splitting, and/or blasting.

For embankments constructed from the on-site soils excavated from the site, we recommend that fill slopes for all heights be constructed at a slope of 2.5 horizontal to 1.0 vertical or flatter, with moisture and density control. Permanent cut slopes should be designed at a slope no steeper than 2.0 horizontal to 1.0 vertical in the granular overburden soils. If steeper fill slopes are desired, retaining walls or reinforced slopes are an option. The slopes should be designed to prevent erosion and subsurface wetting with suitable surface treatments or revegetation.

7.4 Surface and Subsurface Drainage

Shallow groundwater was encountered during our investigation. Groundwater elevations will vary seasonally. An adequate subsurface drainage system should be included in design. In addition, it is common for surface water to flow through permeable wall and foundation backfill materials and collect at the backfill/natural soil interface, resulting in saturation of foundation soils. Properly designed and installed foundation drains minimize the adverse impacts of surface and subsurface flows and should be included in the designs. In addition, the ground surface adjacent to foundations should be sloped to drain away from the structure. Irrigation, flatwork and roof drainage should not discharge near structures or foundation walls.



8.0 LIMITATIONS

The analyses and recommendations presented in this report are based upon data obtained from the test pit excavations at the indicated locations, field observations, laboratory testing, our current understanding of the proposed development and other information cited in this report. The information and recommendations contained herein are preliminary and are intended to be used only for planning purposes. It is possible that subsurface conditions vary between or beyond the investigated locations. The nature and extent of such variations may not become evident until construction.

This report was prepared in accordance with the generally accepted standards of practice for geological and geotechnical engineering as exist in the site area at the time of our investigation. No warranties, express or implied, are intended or made.

Sincerely,

GOLDER ASSOCIATES INC.

Randy March, P.E., P.G.
Principal Geological Engineer

Roger Pihl, P.G.
Senior Engineering Geologist

RP/RM/MWB/rjg

Nancy Dessenberger, P.E., P.G.
Senior Consultant

TABLES

October 2011

TABLE 1

113-81955.002

BRENTON/VER PLOEG GEO EVAL/CO
SUMMARY OF SOIL DATA

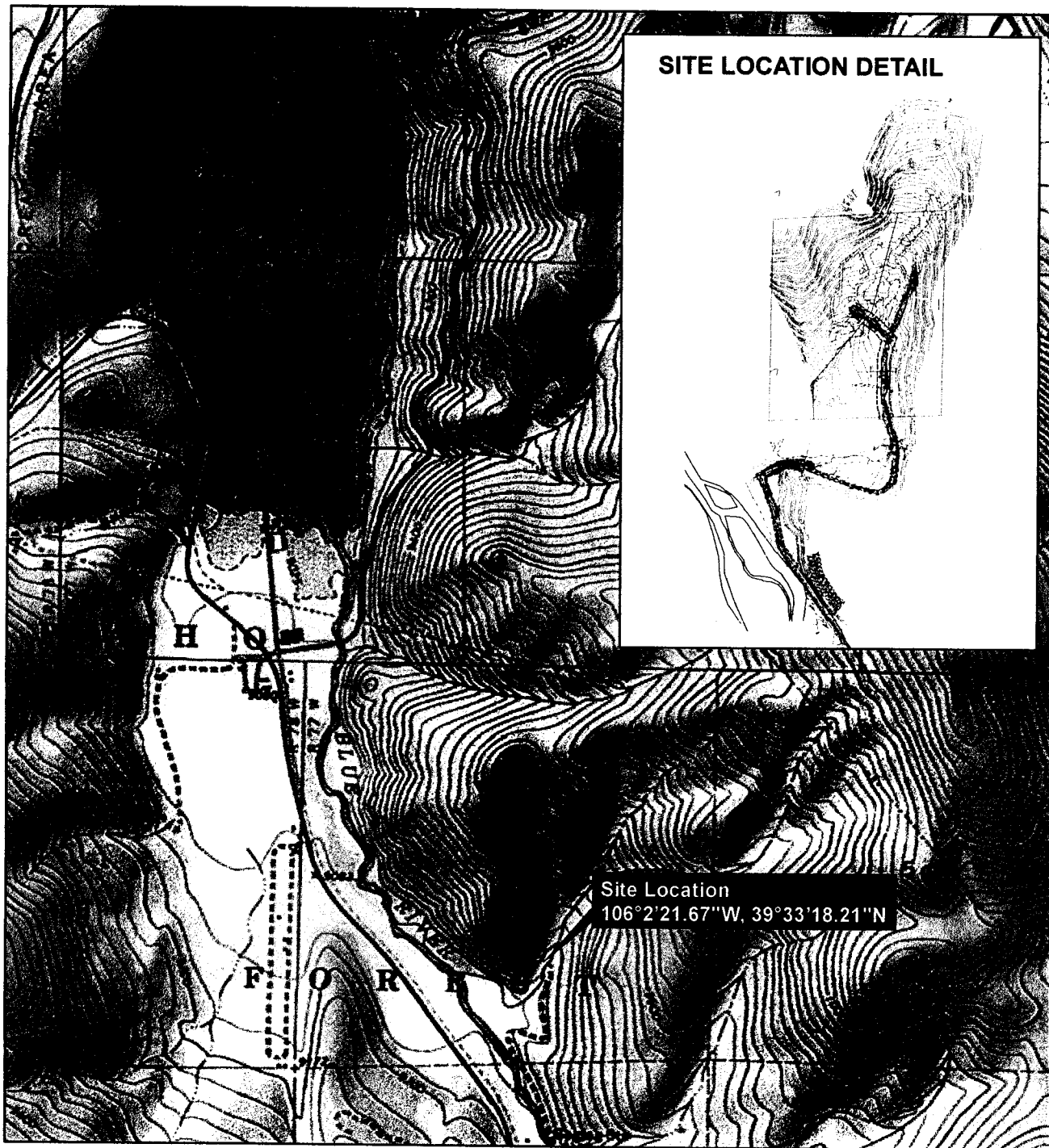
Sample Type	Sample Number	Sample Depth (ft)	USCS Soil Classification	Delivered Moisture (%)	Atterberg Limits			Grain Size Distribution			Specific Gravity	Moisture/Density Relationship Standard Proctor		Additional Tests Comments (See Notes)
					LL	PL	PI	% Finer 3/4"	% Finer #4	% Finer #200		Dry Density (pcf)	Moisture (%)	
Bag	TP1	2	SC-SM	—	24	20	4	100	95	30	—	—	—	
Bag	TP1	5	SM	—	22	20	2	100	97	27	—	—	—	pH
Bag	TP1	6.5	SC	—	28	16	12	90	70	17	—	—	—	
Bag	TP2	2.5	SW-SC	—	48	23	25	100	97	7	—	—	—	
Bag	TP2	4.5	—	—	—	—	—	91	63	5	—	—	—	
Bag	TP3	2.5	SM	—	32	26	6	100	95	28	—	—	—	
Bag	TP3	4	SC	—	37	21	16	100	98	29	—	—	—	pH
Bag	TP4	2	SM	—	NP	NP	NP	92	80	24	—	—	—	
Bag	TP4	4	—	—	—	—	—	95	65	36	—	—	—	

NOTES:

LL= LIQUID LIMIT
PL= PLASTIC LIMIT
PI= PLASTIC INDEX
SL= SHRINKAGE LIMIT
UW= UNIT WEIGHT

T = TRIAXIAL TEST
U = UNCONFINED COMPRESSION TEST
C = CONSOLIDATION TEST
DS = DIRECT SHEAR TEST
PERM = PERMEABILITY


FIGURES



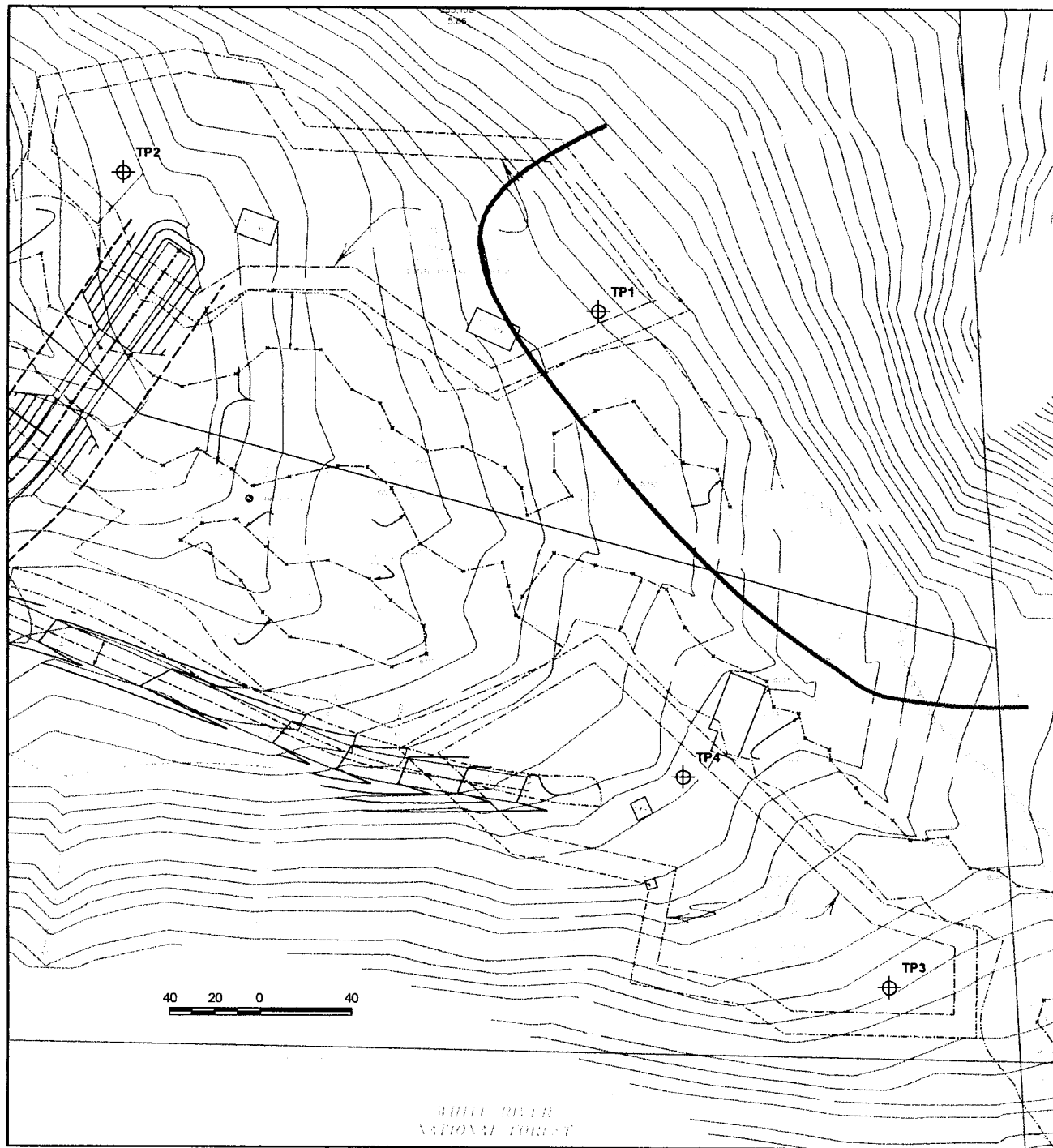
2,000 1,000 0 2,000
 FEET
 SCALE 1:24,000 1 INCH = 2,000 FEET
 WHEN PRODUCED AT SIZE 8.5X11IN

REFERENCES



USGS. Various dates. Topo Quad (7.5') drawn from National Geographic
 TOPOI
 Coordinate System: NAD 1983 UTM Zone 13N

PROJECT		BRENTON VER PLOEG GEOLOGICAL HAZARD INVESTIGATION AND PRELIMINARY GEOTECHNICAL REPORT SUMMIT COUNTY, CO			
TITLE		SITE LOCATION MAP			
 Golder Associates Denver, Colorado		PROJECT No.	113-81955	FILE No.	Fig1_SiteLocation.mxd
		DESIGN	JMH	10/18/2011	SCALE AS SHOWN
		GIS	JMH	10/18/2011	REV 0
		CHECK	RP	10/18/2011	
		REVIEW	NCD	10/18/2011	
					FIGURE 1

M:\Ver_Ploeg\Map\Fig2_Test_Pits.mxd | 10/18/2011 4:30:09 PM | JHesker



LEGEND

-  Test Pit Location
-  Limit of the Rockfall Hazard

North Arrow pointing towards the top right, labeled 'N'.


PROJECT		BRENTON VER PLOEG GEOLOGICAL HAZARD INVESTIGATION AND PRELIMINARY GEOTECHNICAL REPORT SUMMIT COUNTY, CO			
TITLE		TEST PIT LOCATIONS AND LIMIT OF ROCKFALL HAZARD			
 Golder Associates Denver, Colorado	PROJECT No.	113-81955	FILE No.	FIG2_Test_Pits.mxd	
	DESIGN	JMH	10/18/2011	SCALE	AS SHOWN
	GIS	JMH	10/18/2011	REV	0
	CHECK	RP	10/18/2011		
	REVIEW	NCD	10/18/2011		

FIGURE 2



FIGURE 3
Lot 1 Overview

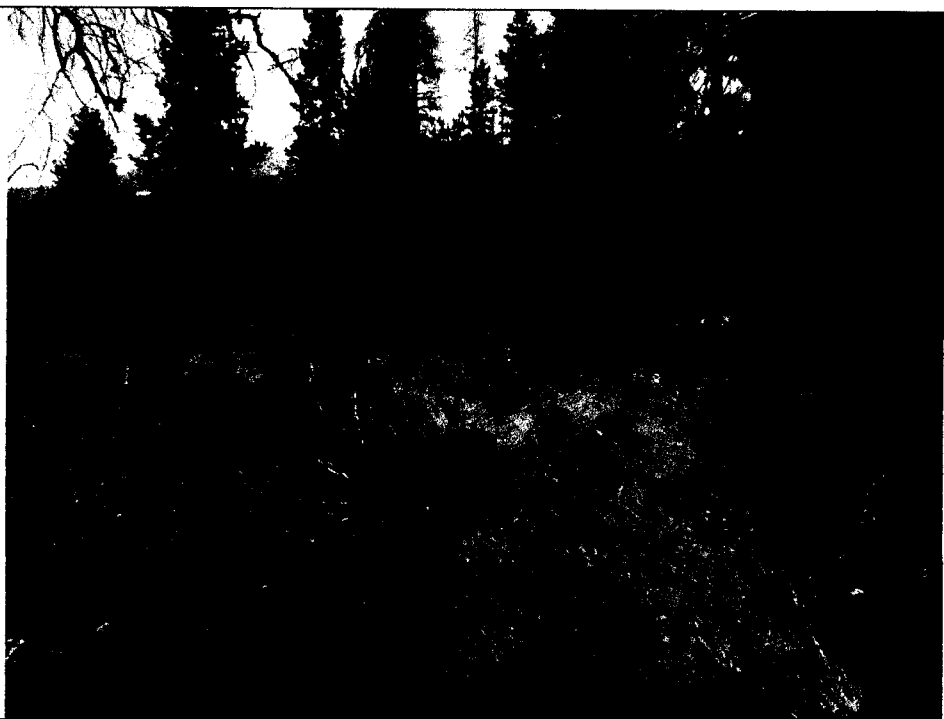


FIGURE 4
Lot 2 Overview





FIGURE 5
Rockfall Source Area






FIGURE 6
Rockfall Debris on Slope



FIGURE 7
Rockfall Debris Near North Side
of Building Envelope



ATTACHMENT A
TEST PIT LOGS

TEST PIT NO. TP1		FIELD TEST PIT LOG	
		PROJECT NO.: 113-81955	
		DATE: 8/26/11	
		TIME: 11:30 AM	
		LOCATION: xxx N xxx E	
		ELEVATION: xxx	
		ENGINEER: R Pihl	
		EQUIPMENT: Caterpillar 305C CR Excavator	
		OPERATOR: Avalanche Excavation	
		WATER LEVEL 6.5 feet bgs	
		Surface condition: Test pit was excavated into grass covered native ground. The test pit was excavated 7 ft below the high, west side. Average width was about 2 ft. Logged west wall of pit. Photo to left is west side of pit. Lower left photo is excavated material. Lower right photo is groundwater and east wall of pit.	
ROOT DEPTH 1.5 ft.			
DEPTH (FT.)	SAMPLE NO.	DESCRIPTION OF MATERIAL [(GROUP NAME (GROUP SYMBOL), moisture, angularity, HCL reaction, structure, max. particle size, gravel/cobble hardness, dry strength, dilatancy, toughness, local name, geologic interpretation)]	
0 - 0.8		Organic silty sand, roots, slightly moist, dark brown, moist.	
0.8 - 2.5	1A at 2 ft.	Silty and clayey sand, SC-SM, light brown, dry, sub angular, compact, fine to medium coarse sand.	
2.5 - 6.0	1B at 5 ft.	Silty sand, SM, light brown, moist, sub angular, compact, fine to coarse grained with minor small gravel. More sandy than above.	
6.0 - 7.0	1C at 6.5 ft.	Clayey sand, SC, light brown, wet, sub angular to rounded, compact, medium to coarse grained with gravel, cobble and small boulders. Practical refusal at 7 ft. Appears to be in-place weathered, igneous bedrock.	
			

**TEST PIT NO.
TP2**

FIELD TEST PIT LOG



PROJECT NO.: 113-81955

DATE: 8/26/11

TIME: 12:30 AM

LOCATION: xxx N xxx E

ELEVATION: xxx

ENGINEER: R Pihl

EQUIPMENT: Caterpillar 305C CR Excavator

OPERATOR: Avalanche Excavation




WATER LEVEL 4.25 feet bgs

Surface condition: Test pit was excavated into grass covered native ground. The test pit was excavated 5 ft below the high, west side. Average width was about 2 ft. Logged west wall of pit. Photo to left is west side of pit. Lower left photo is excavated material. Lower right photo is looking southwest.

ROOT DEPTH 1.5 ft.

DEPTH (FT.)	SAMPLE NO.	DESCRIPTION OF MATERIAL [(GROUP NAME (GROUP SYMBOL), moisture, angularity, HCL reaction, structure, max. particle size, gravel/cobble hardness, dry strength, dilatancy, toughness, local name, geologic interpretation)]
0 - 3.25	2A at 2.5 ft.	Clayey sand with some organic content, dark brown, slightly plastic, slightly moist, fine to medium coarse, loose.
3.25 - 4.0		Silty and clayey sand, more sandy than above with some cobbles and boulders, medium brown, moist, sub angular to sub rounded, compact, medium to coarse sand.
4.0 - 5.0	2B at 4.5 ft.	Clean sand with few fines, SW, decomposed bedrock, light brown, wet, angular to sub angular, compact, coarse grained with gravel, cobble and small boulders. Practical refusal at 5 ft. Appears to be in-place, weathered igneous bedrock.



TEST PIT NO. TP3		FIELD TEST PIT LOG	
		PROJECT NO.: 113-81955	
		DATE: 8/26/11	
		TIME: 1:15 PM	
		LOCATION: xxx N xxx E	
		ELEVATION: xxx	
		ENGINEER: R Pihl	
		EQUIPMENT: Caterpillar 305C CR Excavator	
		OPERATOR: Avalanche Excavation	
		WATER LEVEL 5.0 feet bgs	
		<p>Surface condition: Test pit was excavated into grass covered native ground. The test pit was excavated 5 ft below the high, north side. Average width was about 2 ft. Logged east wall of pit. Photo to left is east side of pit. Lower left photo is west side of pit. Lower right photo is looking south.</p>	
ROOT DEPTH 2 ft.			
DEPTH (FT.):	SAMPLE NO.	DESCRIPTION OF MATERIAL [(GROUP NAME (GROUP SYMBOL), moisture, angularity, HCL reaction, structure, max. particle size, gravel/cobble hardness, dry strength, dilatancy, toughness, local name, geologic interpretation)]	
0 - 2.0		Silty sand and sandy silt with some organic content, dark brown, slightly moist, fine to medium coarse, loose.	
2.0 - 5.0	3A at 2.5 ft. 3B at 4.0 ft.	Clayey sand, SC, fill, red orange and grey, compact, moist, sub angular, slightly plastic, clayey portions mixed in with very clean sand, two inch horizontal carbon layer at 2.5 feet is not continuous around pit. The overburden soils may have been reworked in this area. Practical refusal at 5 ft. Appears to be in-place weathered, igneous bedrock.	
			

**TEST PIT NO.
TP4**

FIELD TEST PIT LOG



PROJECT NO.: 113-81955

DATE: 8/26/11

TIME: 2:15 PM

LOCATION: xxx N xxx E

ELEVATION: xxx

ENGINEER: R Pihl

EQUIPMENT: Caterpillar 305C CR Excavator

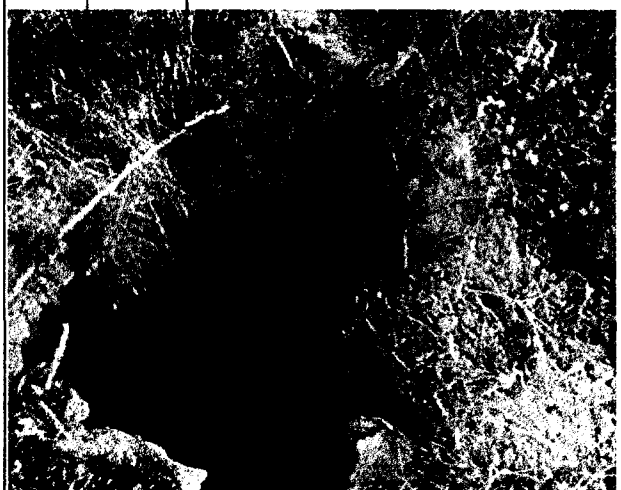
OPERATOR: Avalanche Excavation

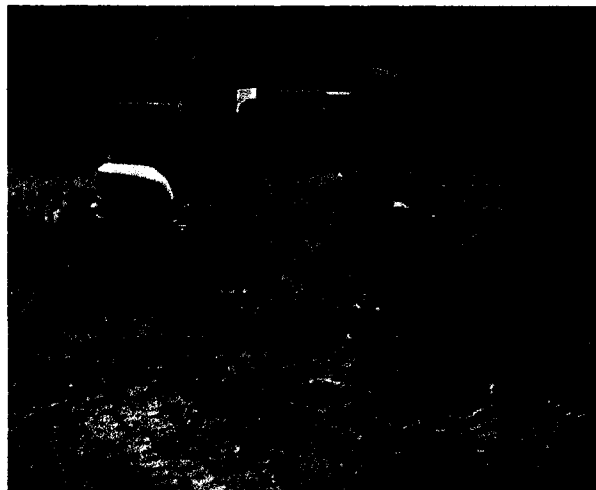
WATER LEVEL 3.8 feet bgs

Surface condition: Test pit was excavated into grass covered native ground in driveway excavation. Current ground surface is about 2 feet below natural surface. The test pit was excavated 4.5 ft below the high, north side. Average width was about 2 ft. Logged north wall of pit. Photo to left is north side of pit. Lower left photo is east side of pit. Lower right photo is looking north.

ROOT DEPTH 2 ft.

DEPTH (FT.)	SAMPLE NO.	DESCRIPTION OF MATERIAL [(GROUP NAME (GROUP SYMBOL), moisture, angularity, HCL reaction, structure, max. particle size, gravel/cobble hardness, dry strength, dilatancy, toughness, local name, geologic interpretation)]
0 - 2.0	4A at 2.0 ft.	Silty sand, (SM), light brown, slightly moist, medium to coarse sand, compact. Natural ground surface has been excavated several feet. Silty sand with gravel, cobble and small igneous boulders, (SM), light brown, moist, coarse sand, angular, compact. The existing ground surface is several feet lower than the original surface. This area has been excavated several feet for the current driveway. Some rounded broken igneous clasts appear buried. Practical refusal at 4.5 ft. Appears to be weathered, in-place, igneous bedrock.
2.0 - 4.5	4B at 4.0 ft.	





ATTACHMENT B
LABORATORY TEST RESULTS

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

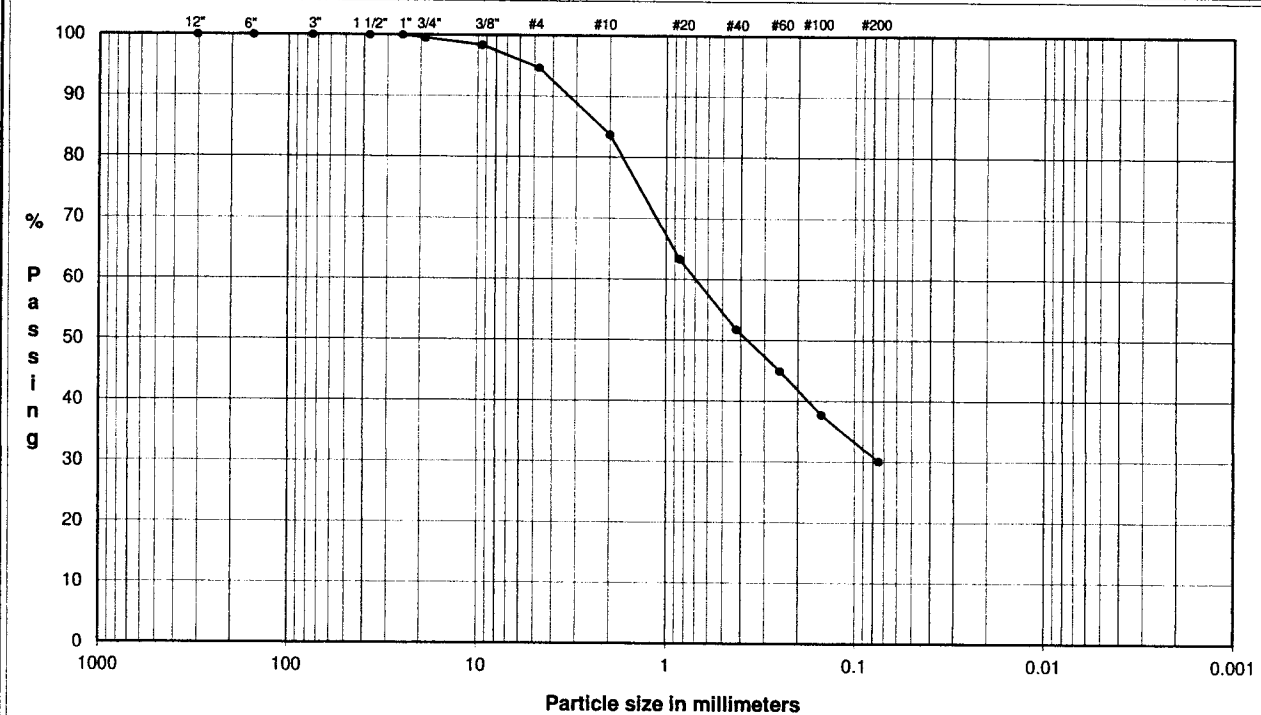
ASTM D421, D422, D2487, D2488, D4318

PROJECT NAME: Brenton/Ver Ploeg Geo Eval/CO

SAMPLE ID: TP1

Depth (ft) 2

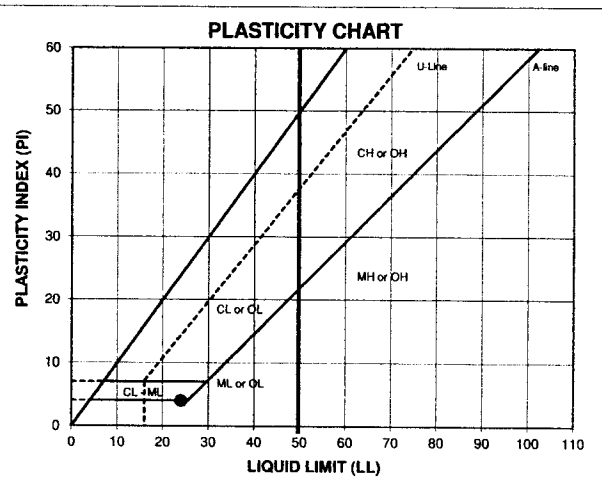
TYPE: Bag



COBBLES	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay
	GRAVEL		SAND			FINES

U.S. Standard Sieves Sizes and Numbers

Particle Size (mm)	% Passing	Classification	Percentage
12.0"	304.8	100.0	
6.0"	154.2	100.0	
3.0"	75.0	100.0	
1.5"	37.5	100.0	
1.0"	25.0	100.0	
0.75"	19.0	99.5	
0.375"	9.5	98.4	
#4	4.8	94.7	
#10	2.0	83.7	
#20	0.9	63.4	
#40	0.4	51.8	
#60	0.3	44.9	
#100	0.2	37.7	
#200	0.1	30.1	
			Fines
			30.10



DESCRIPTION: Brown silty, clayey sand

USCS: SC-SM

ATTERBERG LIMITS

M _c	LL	PL	PI
--	24	20	4

TECH	DTM
DATE	9/28/11
REVIEW	MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

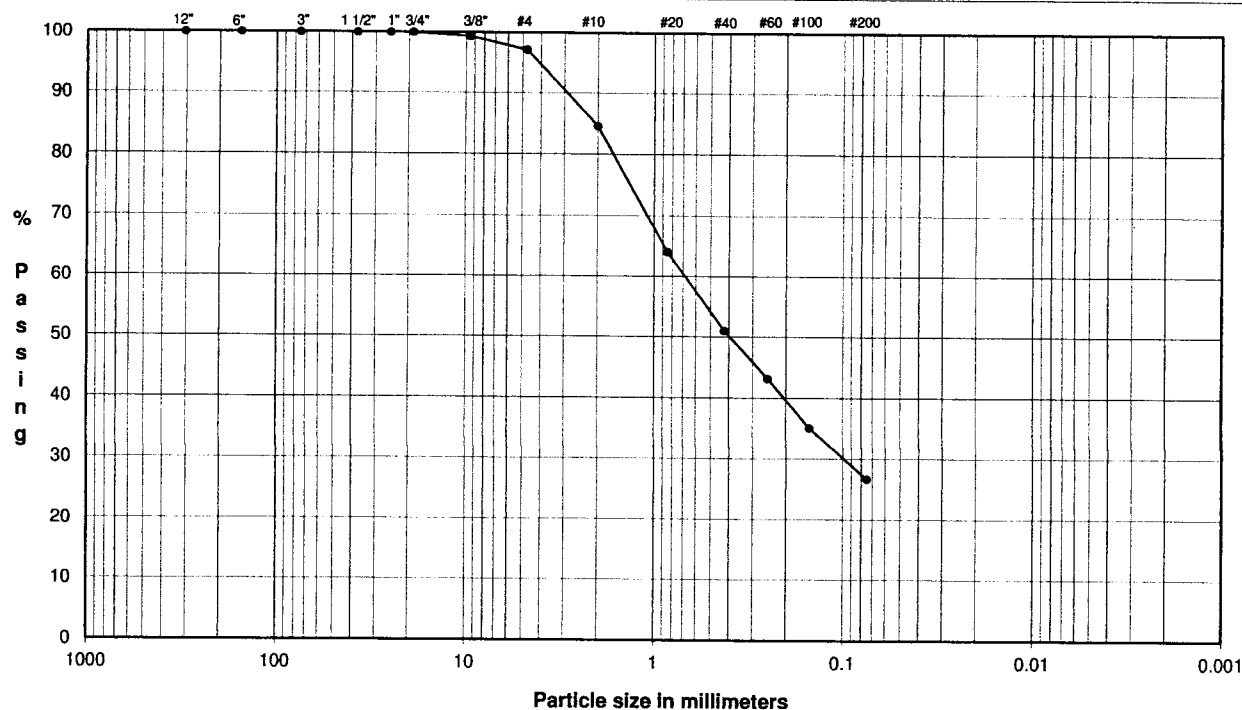
ASTM D421, D422, D2487, D2488, D4318

PROJECT NAME: Brenton/Ver Ploeg Geo Eval/CO

SAMPLE ID: TP1

Depth (ft) 5

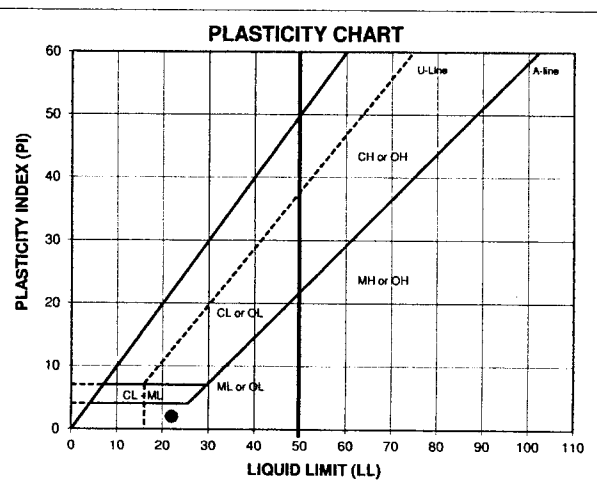
TYPE: Bag



COBBLES	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay
	GRAVEL		SAND			FINES

U.S. Standard Sieves Sizes and Numbers

Particle Size (mm)	% Passing	Classification	Percentage
12.0"	304.8	100.0	
6.0"	154.2	100.0	
3.0"	75.0	100.0	
1.5"	37.5	100.0	
1.0"	25.0	100.0	
0.75"	19.0	100.0	
0.375"	9.5	99.3	
#4	4.8	97.2	
#10	2.0	84.6	
#20	0.9	64.1	
#40	0.4	51.0	
#60	0.3	43.2	
#100	0.2	35.1	
#200	0.1	26.7	
Fines			26.73



ATTERBERG LIMITS

M _v	LL	PL	PI
--	22	20	2

DESCRIPTION: Brown

USCS: USCS

TECH	JAM
DATE	9/27/11
REVIEW	MB

pH OF SOIL**ASTM D 4972****Method A****PROJECT TITLE****Brenton/Ver Ploeg Geo Eval/CO****PROJECT NO.****113-81955.002****REMARKS****--****SAMPLE ID****TP-1****SAMPLE TYPE****Bag****SAMPLE DEPTH (****5****SAMPLE PREPARATION****TEMPERATURE RANGE****15-25 °C**

Sieved through the #10 Sieve

Yes

Air Dry

Yes

Type of Water

DI

Method Used

A

Room Temperature In °C

22.4**WATER & SOIL**

pH of Water used in Test =

5.35

Temperature of Water =

21.1

Trial	pH	Temperature
1	6.7	20.6
2	6.7	20.6
3	6.6	20.6

AVERAGE**6.7****20.6****CALCIUM CHLORIDE SOLUTION & SOIL****RANGE 5.0-7.0pH**

pH of 0.01M of Calcium Chloride=

6.2

Temperature of Solution =

21.1

Trial	pH	Temperature
1	7.1	21.1
2	7.2	21.0
3	7.1	21.2

AVERAGE**7.1****21.1****Description** **Brown****USCS****SM****TECH** **JAM****DATE** **10/4/2011****CHECK** **MB**

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

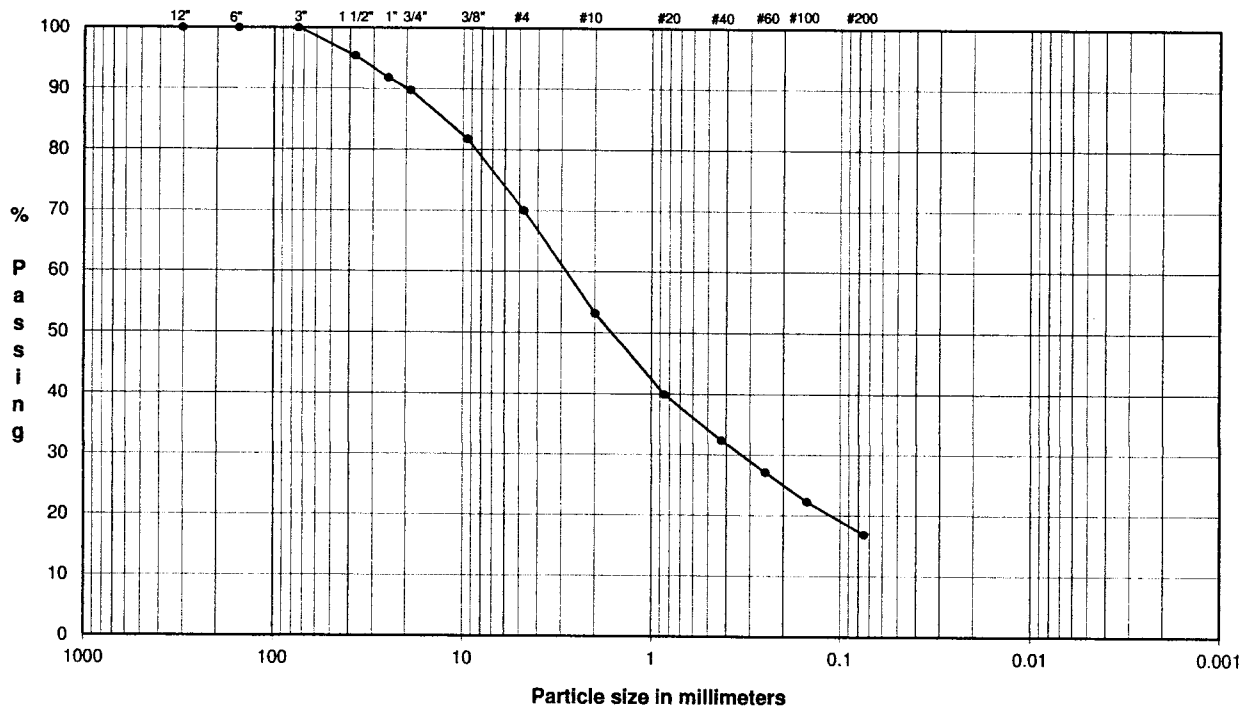
ASTM D421, D422, D2487, D2488, D4318

PROJECT NAME: Brenton/Ver Ploeg Geo Eval/CO

SAMPLE ID: TP1

Depth (ft) 6.5

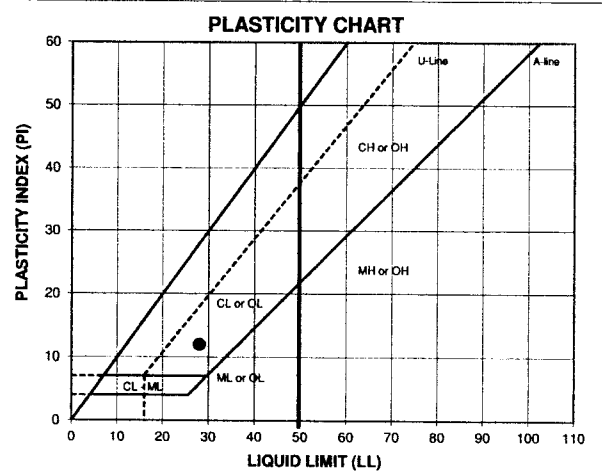
TYPE: Bag



COBBLES	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay
	GRAVEL		SAND			FINES

U.S. Standard Sieves Sizes and Numbers

Particle Size (mm)	% Passing	Classification	Percentage
12.0"	304.8	100.0	0.00
6.0"	154.2	100.0	
3.0"	75.0	100.0	
1.5"	37.5	95.4	10.22
1.0"	25.0	91.8	
0.75"	19.0	89.8	
0.375"	9.5	81.8	19.71
#4	4.8	70.1	
#10	2.0	53.2	16.90
#20	0.9	40.0	
#40	0.4	32.4	20.75
#60	0.3	27.2	
#100	0.2	22.3	15.51
#200	0.1	16.9	
Fines			16.91



ATTERBERG LIMITS

M _c	LL	PL	PI
--	28	16	12

DESCRIPTION: Dark yellowish brown clayey sand with gravel

USCS: SC

TECH	JAM
DATE	9/27/11
REVIEW	MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

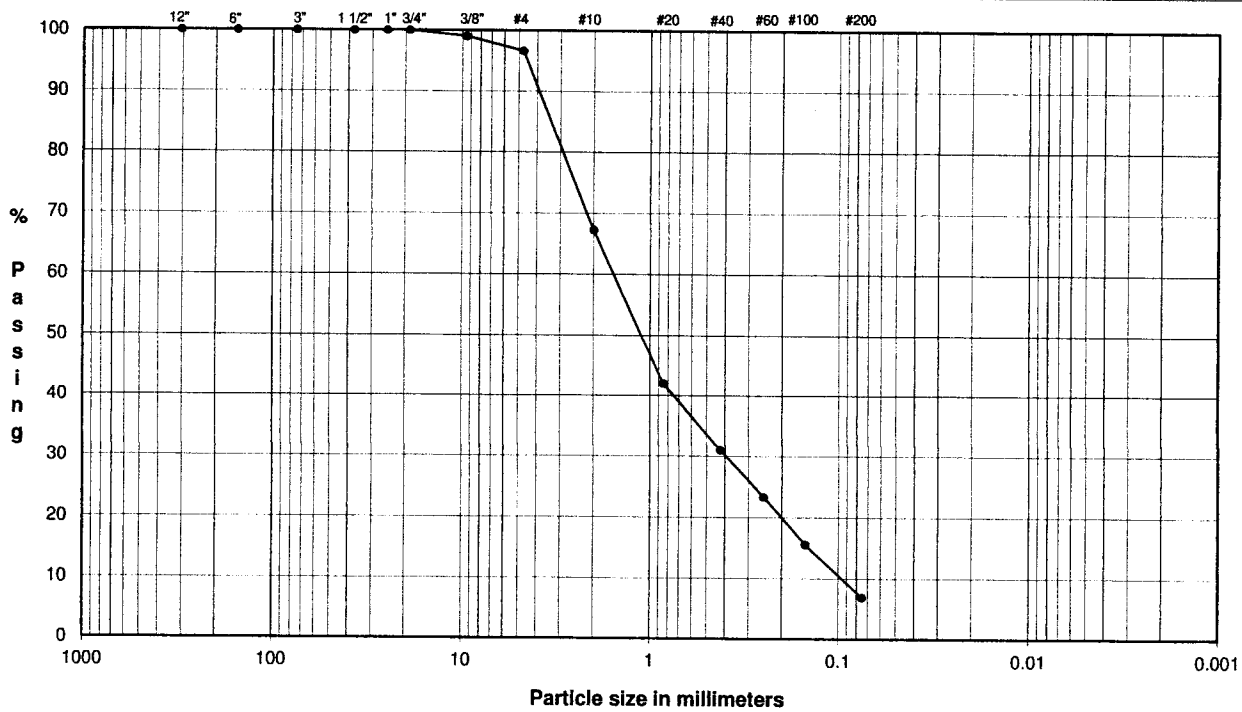
ASTM D421, D422, D2487, D2488, D4318

PROJECT NAME: **Brenton/Ver Ploeg Geo Eval/CO**

SAMPLE ID: **TP2**

Depth (ft) **2.5**

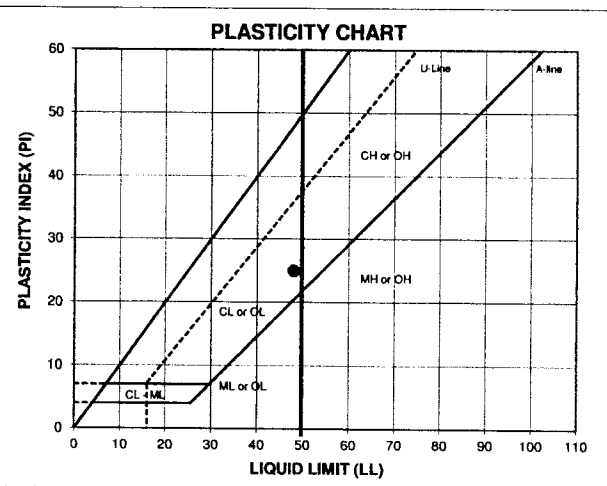
TYPE: **Type**



COBBLES	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay
	GRAVEL		SAND			FINES

U.S. Standard Sieves Sizes and Numbers

Particle Size (mm)	% Passing	Classification	Percentage
12.0"	304.8	100.0	
6.0"	154.2	100.0	
3.0"	75.0	100.0	
1.5"	37.5	100.0	
1.0"	25.0	100.0	
0.75"	19.0	100.0	
0.375"	9.5	99.0	
#4	4.8	96.7	
#10	2.0	67.2	
#20	0.9	42.0	
#40	0.4	31.1	
#60	0.3	23.3	
#100	0.2	15.6	
#200	0.1	6.9	
Fines			6.93



ATTERBERG LIMITS

M _c	LL	PL	PI
--	48	23	25

DESCRIPTION: **Very dark gray well-graded sand with clay**

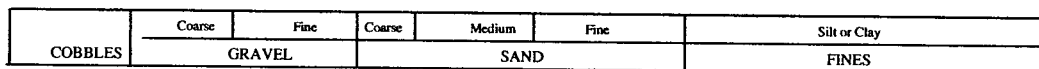
USCS: **SW-SC**

TECH **JAM**
DATE **9/26/11**
REVIEW **MB**

ASTM D421, D422, D2487, D2488, D4318

Depth (ft) **4.5**

TYPE: **Bag**



The Plasticity Chart is a graph used for soil classification based on the Plasticity Index (PI) and Liquid Limit (LL). The Y-axis represents the Plasticity Index (PI) from 0 to 60, and the X-axis represents the Liquid Limit (LL) from 0 to 110. The chart is divided into several regions by three main lines: the U-Line, the A-Line, and a vertical line at LL = 50. The regions are labeled as follows:

- U-Line:** A dashed line representing the upper boundary of the plasticity regions.
- A-Line:** A solid line representing the lower boundary of the plasticity regions.
- CH or OH:** Region above the U-Line.
- MH or OH:** Region between the U-Line and the A-Line.
- CL or OL:** Region between the A-Line and the vertical line at LL = 50.
- ML or OL:** Region below the A-Line and to the left of the vertical line at LL = 50.

Additional labels include "U-Line", "A-Line", "CH or OH", "MH or OH", "CL or OL", and "ML or OL". The chart also includes a horizontal line at PI = 7 and a vertical line at LL = 25, which define the boundaries for the "ML" and "CL" regions.

USCS:

M _r	LL	PL	PI
--	--	--	--

TECH	JAM
DATE	9/27/11
REVIEW	MB

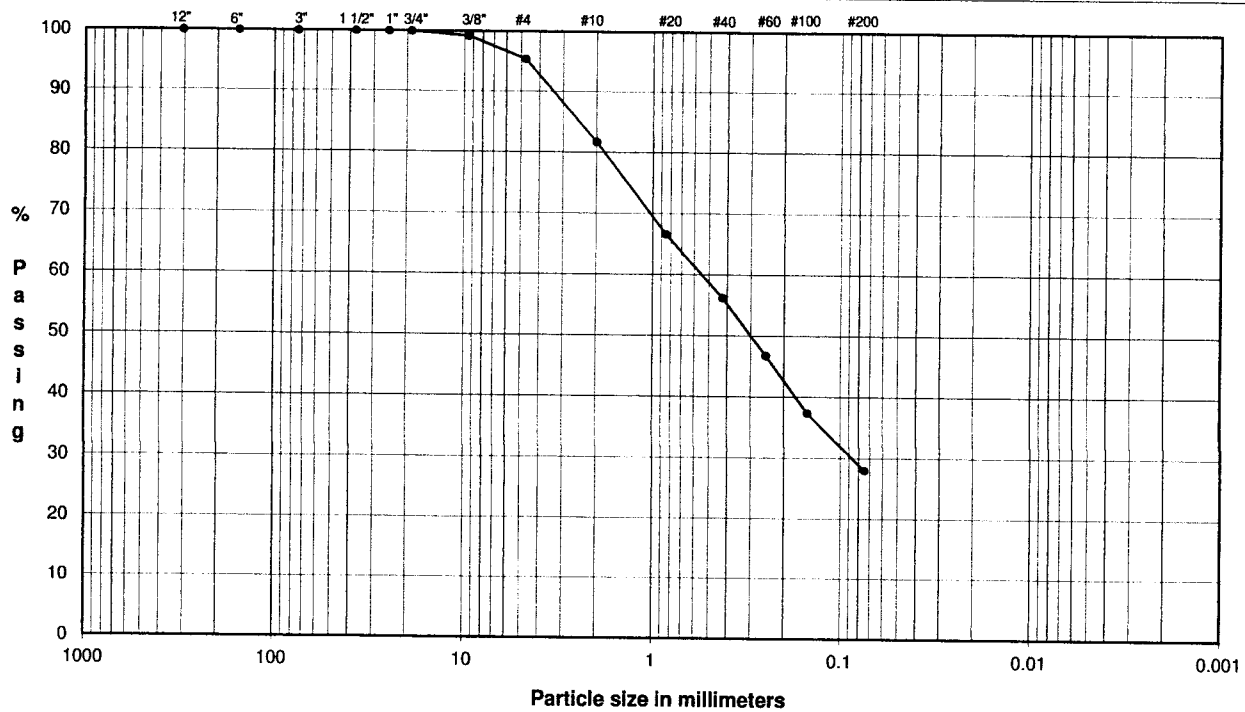
PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D2487, D2488, D4318

 PROJECT NAME: **Brenton/Ver Ploeg Geo Eval/CO**

 SAMPLE ID: **TP3**

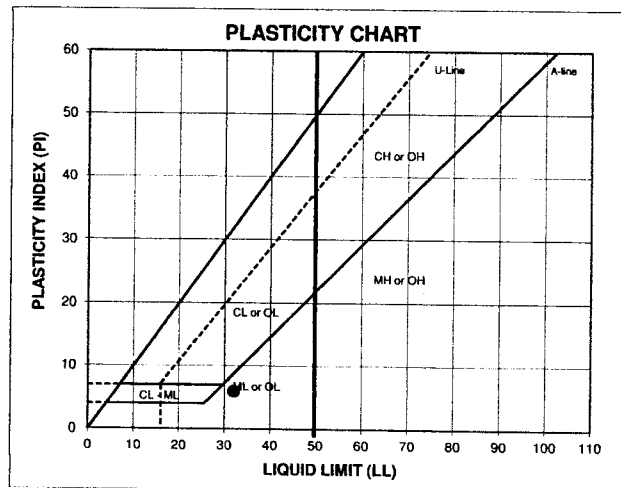
 Depth (ft) **2.5**

 TYPE: **Bag**


COBBLES	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay
	GRAVEL		SAND			FINES

U.S. Standard Sieves Sizes and Numbers

Particle Size (mm)	% Passing	Classification	Percentage
12.0"	304.8	100.0	
6.0"	154.2	100.0	
3.0"	75.0	100.0	
1.5"	37.5	100.0	
1.0"	25.0	100.0	
0.75"	19.0	100.0	
0.375"	9.5	99.2	
#4	4.8	95.5	
#10	2.0	81.7	
#20	0.9	66.6	
#40	0.4	56.2	
#60	0.3	46.7	
#100	0.2	37.4	
#200	0.1	28.0	
			28.04


 DESCRIPTION: **Dark yellowish brown silty sand**

 USCS: **SM**

ATTERBERG LIMITS

M _c	LL	PL	PI
--	32	26	6

TECH	DTM
DATE	9/28/11
REVIEW	MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D2487, D2488, D4318

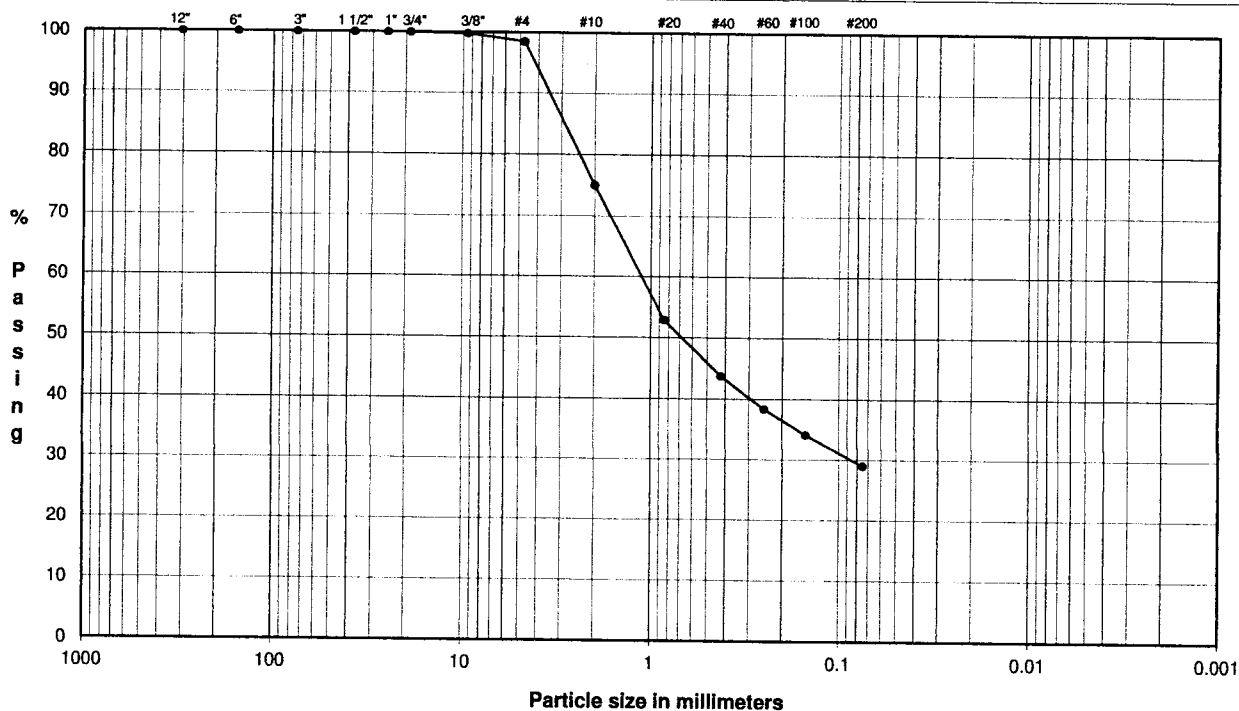
PROJECT NAME: Brenton/Ver Ploeg Geo Eval/CO

SAMPLE ID: TP3

Depth (ft)

4

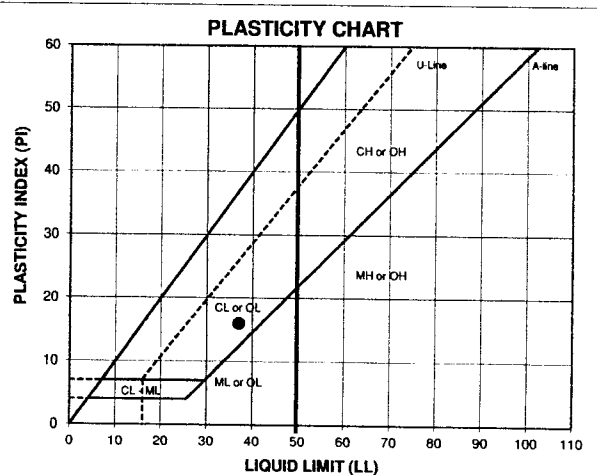
TYPE: Bag



COBBLES	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay
	GRAVEL		SAND			FINES

U.S. Standard Sieves Sizes and Numbers

Particle Size		Particle Size	
(mm)	% Passing	Classification	Percentage
12.0"	304.8	Cobbles	0.00
6.0"	154.2		
3.0"	75.0		
1.5"	37.5		
1.0"	25.0		
0.75"	19.0	Coarse Gravel	0.00
0.375"	9.5		
#4	4.8	Fine Gravel	1.51
#10	2.0	Coarse Sand	23.45
#20	0.9	Medium Sand	31.30
#40	0.4		
#60	0.3		
#100	0.2		
#200	0.1	Fine Sand	14.70
Fines			29.04



DESCRIPTION: Strong brown clayey sand

USCS: SC

ATTERBERG LIMITS

M _c	LL	PL	PI
--	37	21	16

TECH	DTM
DATE	9/28/11
REVIEW	MB

pH OF SOIL**ASTM D 4972****Method A****PROJECT TITLE**
PROJECT NO.
REMARKS

Brenton/Ver Ploeg Geo Eval/CO

113-81955.002

--

SAMPLE ID**SAMPLE TYPE****SAMPLE DEPTH (**

TP-3

Bag

4

SAMPLE PREPARATION**TEMPERATURE RANGE**

15-25 °C

Sieved through the #10 Sieve

Yes

Air Dry

Yes

Type of Water

DI

Method Used

A

Room Temperature In °C

22.4

WATER & SOIL

pH of Water used in Test =

5.35

Temperature of Water =

21.1

Trial	pH	Temperature
1	6.8	20.6
2	6.8	20.7
3	7.0	20.7

AVERAGE

6.9

20.7

CALCIUM CHLORIDE SOLUTION & SOIL

pH of 0.01M of Calcium Chloride=

RANGE 5.0-7.0pH

6.2

Temperature of Solution =

21.1

Trial	pH	Temperature
1	5.7	21.2
2	5.8	21.0
3	5.8	21.1

AVERAGE

5.8

21.1

Description Strong brown clayey sand**USCS** SC**TECH** JAM
DATE 10/4/2011
CHECK MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

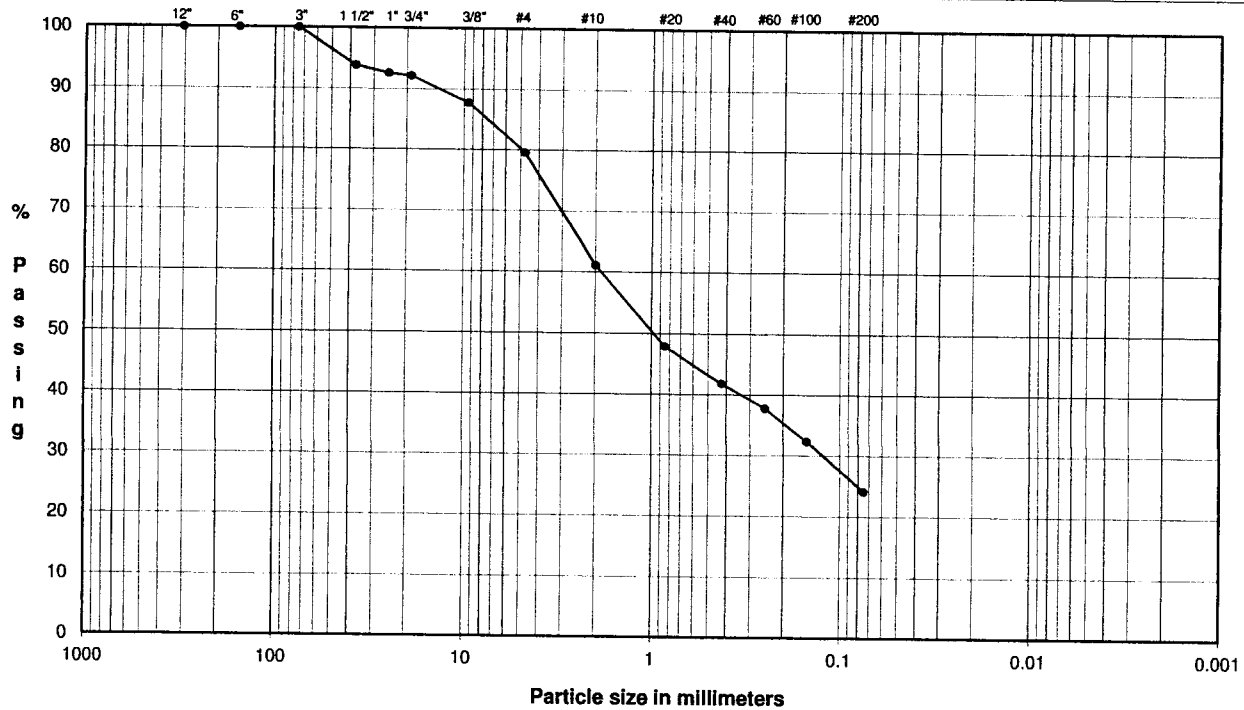
ASTM D421, D422, D2487, D2488, D4318

PROJECT NAME: Brenton/Ver Ploeg Geo Eval/CO

SAMPLE ID: TP4

TYPE: Bag

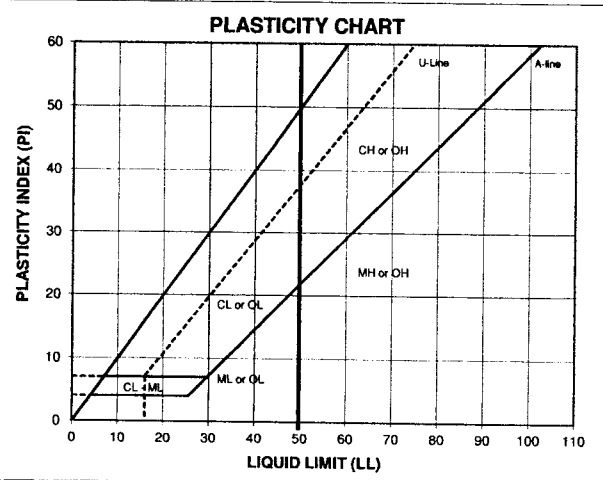
Depth (ft) 2



COBBLES	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay
	GRAVEL		SAND			FINES

U.S. Standard Sieves Sizes and Numbers

Particle Size			Particle Size	
	(mm)	% Passing	Classification	Percentage
12.0"	304.8	100.0	Cobbles	0.00
6.0"	154.2	100.0		
3.0"	75.0	100.0		
1.5"	37.5	93.9		
1.0"	25.0	92.6	Coarse Gravel	7.80
0.75"	19.0	92.2		
0.375"	9.5	87.9		
#4	4.8	79.6	Fine Gravel	12.61
#10	2.0	61.1	Coarse Sand	18.49
#20	0.9	47.9	Medium Sand	19.27
#40	0.4	41.8		
#60	0.3	37.8		
#100	0.2	32.4		
#200	0.1	24.1	Fine Sand	17.71
			Fines	24.13



DESCRIPTION: Dark yellowish brown silty sand with gravel

USCS: SM

ATTERBERG LIMITS

M _c	LL	PL	PI
--	NP	NP	NP

TECH	DTM
DATE	9/28/11
REVIEW	MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

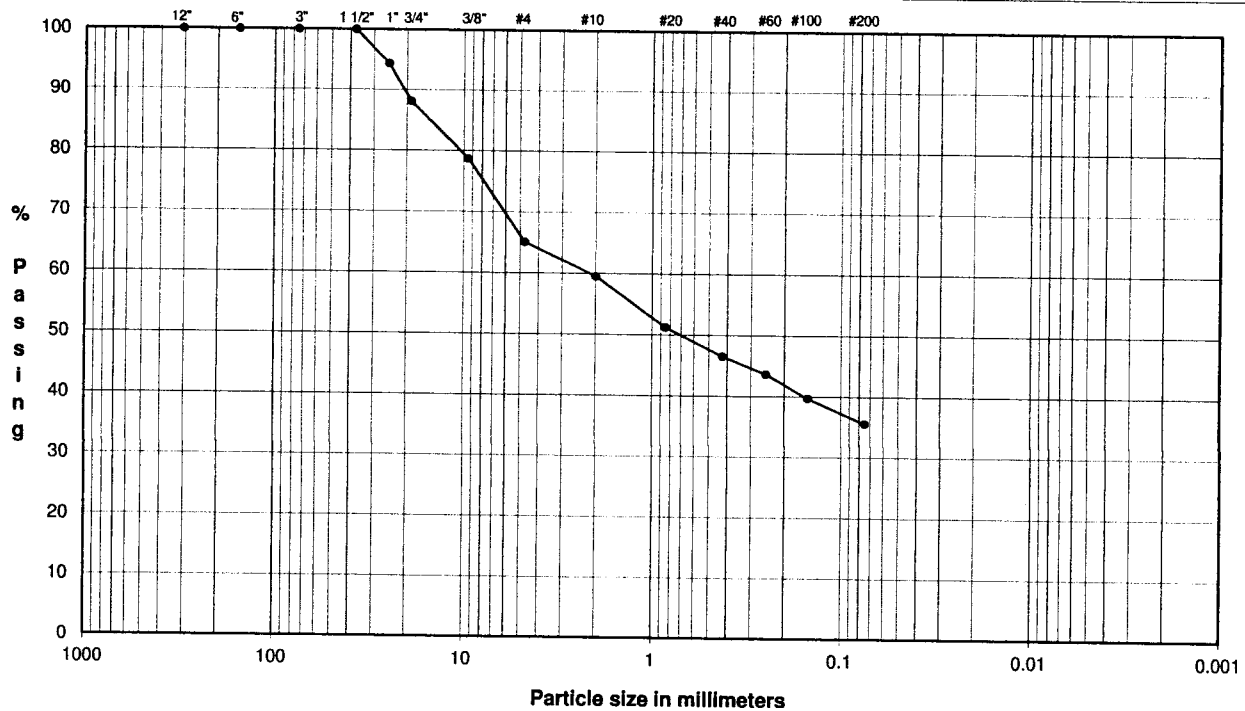
ASTM D421, D422, D2487, D2488, D4318

PROJECT NAME: Brenton/Ver Ploeg Geo Eval/CO

SAMPLE ID: TP4

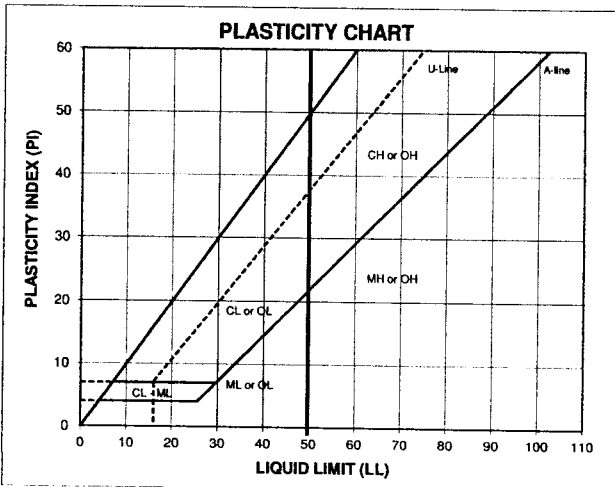
Depth (ft) 4

TYPE: Bag



COBBLES	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay
	GRAVEL		SAND			FINES

U.S. Standard Sieves Sizes and Numbers	Particle Size (mm)		% Passing	Classification	Percentage
	Particle Size (mm)	% Passing	Classification	Percentage	
	12.0"	304.8	100.0	Cobbles	0.00
	6.0"	154.2	100.0		
	3.0"	75.0	100.0		
	1.5"	37.5	100.0	Coarse Gravel	11.88
	1.0"	25.0	94.4		
	0.75"	19.0	88.1		
	0.375"	9.5	78.7	Fine Gravel	23.04
	#4	4.8	65.1		
	#10	2.0	59.5		
	#20	0.9	51.3	Coarse Sand	5.54
	#40	0.4	46.5		
	#60	0.3	43.6		
	#100	0.2	39.7	Medium Sand	13.01
	#200	0.1	35.7		
				Fine Sand	10.88
				Fines	35.65



DESCRIPTION: Dark yellowish brown

USCS: --

ATTERBERG LIMITS

M _c	LL	PL	PI
--	--	--	--

TECH JAM
DATE 9/26/11
REVIEW MB

EXHIBIT E



Alpine Tree Services, LLC

PO Box 2321 Frisco, CO 80443 Phone (970) 389-4964 Fax (970) 668-1736
Alpinetreeservices@comcast.net

June 21, 2011

Forest Management Plan **The Ver Ploeg Tracts**

Location

The Ver Ploeg Tracts are located at 15200 Highway 9, on the east side of the Blue River, between Frisco and Breckenridge. The tracts contain approximately 58 acres. Two residential lots/home sites are planned through a Planned Unit Development (PUD) and Subdivision Exemption process. Lot 1 is approximately 5.86 acres in size and lot 2 is approximately 5.87 acres in size.

Observation of Site

The tracts are a mix of many species of conifers including Lodgepole Pine, Spruce, and Fir. According to the Colorado State Forest Service, the overall health of the forest is "fair to poor" due to many of the Lodge Pole Pine trees being infected with the Mountain Pine Beetle. Because of the proximity to the creek, many plants that are native to Colorado wetland and riparian areas line the east side of lot 1 and the west side of lot 2. Soils on the lots are typical and a thin layer of duff covers the floor of the forested areas.

Lot 1 is not heavily wooded and has a very young and healthy Lodgepole Pine forest covering about half of the property.

Lot 2 is wooded on approximately 80 percent of the property. Lodgepole Pine is the dominate tree species.

No forest management has been done in this area, and the infestation of the Mountain Pine Beetle over the last 10 years has really taken a toll on this area. For this reason, approximately 90 percent of all Lodgepole Pine trees are already dead or infested.

Dwarf mistletoe is present on some of the evergreen trees on both tracts 1 and 2 but not at high levels. There is no treatment for trees with the parasite and it does spread to healthy trees. Since there are so few live trees remaining we don't recommend that these trees are removed.

Beetle Block will be used where the proximity of trees is too close to wetland areas and spraying is not recommended.

We also recommend spraying the trees in the new growth forest on lot 1 to protect against the twig beetle that targets this size tree.

The Mountain Pine Beetle has been ravishing Colorado's forests for the last 10 years. These are two very successful methods in preventing infestation. If nothing is done to protect the healthy trees, it is only a matter of time before they fall victim to the Beetle. Trees must be treated every spring before the annual hatch and flight of the Beetles.

Noxious Weeds

There are many species of noxious weeds present on the property and should be treated to prevent their spread. It will be necessary to treat the areas for weeds every year after the forest management plan is implemented. Increased traffic and/or construction will increase the number of weeds. Noxious weeds will begin to invade these areas and take precious nutrients from favorable native plants.

Summary

The Mountain Pine Beetle has had a dramatic effect on the Ver Ploeg Tracts, with a large number of Lodgepole Pine trees falling victim to the infestation. With a fast response to the problem, the area can be cleaned up and the remaining trees can be protected. This will greatly increase the forest's appearance and health, reduce its wildfire risk, and improve the wildlife habitat on site.